

MOTOR AGE

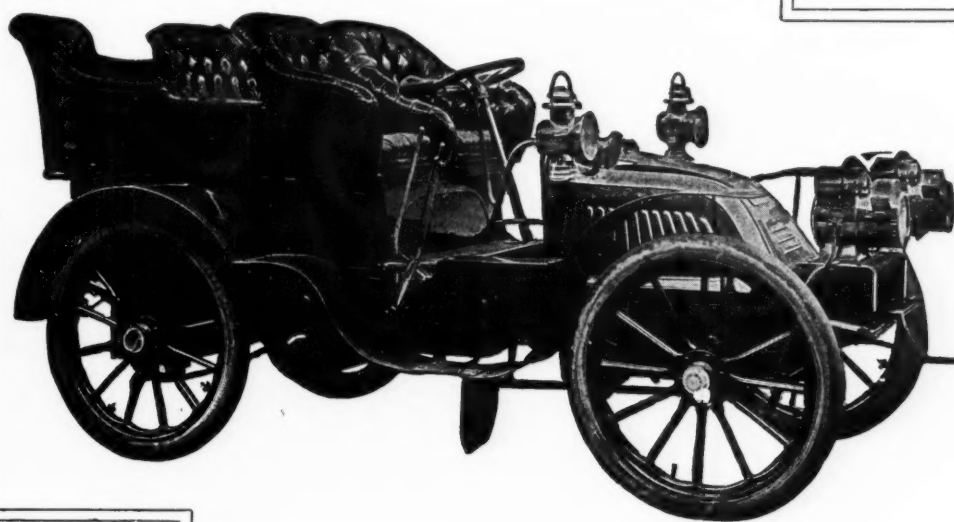
Vol. IV. No. 2

JULY 9, 1903

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All interested are invited to inspect the Thomas factory**

E. R. THOMAS MOTOR CO., 1202 Niagara St., Buffalo, N. Y.

MOTOR AGE

VOL. IV. NO. 2.

JULY 9, 1903.

\$2.00 Per Year

SIXTEEN RIDERS FINISH MOTOR CYCLE ENDURANCE RUN

NEW YORK, July 6.—Dust covered and oil begrimed motor cyclists began to arrive at the club house of the New York Motor Cycle club at 6 minutes before 2 o'clock yesterday afternoon and continued to brush in in sharp finishes or trail in at longer intervals up to 18 minutes of 7 o'clock in the evening. At that hour sixteen hardy road drivers of the eighteen, who had started from Hartford at 6 o'clock that morning on the final stage of a 3 days' endurance run from this city to Worcester, Mass., and return, a distance of 394 miles, had arrived.

SIXTEEN SURVIVORS

These sixteen were the survivors of thirty-two drivers of motor cycles, who had started from Central Park at One Hundred and Tenth street and Seventh avenue at 6 o'clock on Friday morning.

Nineteen of the thirty-two had reached Springfield, Mass., after the first day's run of 140 miles. Eighteen of the nineteen had got to Hartford after a Fourth of July run to Worcester and back through Springfield to the Connecticut capital.

At present figuring fourteen of the survivors seem to have scored 1,000 points, the maximum. A. A. Hoyt, of Whitman, Mass., and F. C. Hanfield, of New York, alone of those who finished seem to have failed in securing perfect scores.



J. H. Bartlett, Marsh



R. R. Boorman, Wagner

All this plugging up New England hills and speeding over New York stretches was to test "the endurance and judgment and the ability and skillfulness of riders in their operation and care" of the newest of power driven vehicles. It was the second annual test to which the little fellows had been put and how well they stood it by comparison with their first formal trial last year will appear from a comparison of results and conditions of trial.

HARDER THAN PRECEDING RUN

The endurance run of 1902 of the Metropole Cycling Club, a co-promoter with the New York Motor Cycle club in the present test, took place on July 3 and 4. The course was from Boston to this city, a distance of 244 miles. It had thirty-one starters, of whom thirteen finished.

All of the thirteen survivors of the 1902 run were easy winners of the gold medals offered the makers of perfect scores. The easy attainment of maximum figures last year awakened the promoters to the realization of the high degrees of attained perfection and skill by motor cycles and their drivers even thus early in the life of the industry and the sport. To meet this, conditions had to be made more difficult. They were, and the length of the journey was extended a day in time and 150 miles in distance. Further than that a higher prize winning standard had to be set. Accordingly a gold medal was offered



The Officials of the Contest



The Start Friday Morning

MOTOR AGE

for the one coming the closest to the time schedule, silver and bronze medals only going to makers of perfect scores and run survivors.

Under this year's rules no repairs or adjustments were allowed to be made in controls. This had to be attended to on the road and the time thus consumed was added to the running time.

RUNNING SCHEDULE

The time schedule was based on different average rates of speed for the two classes into which the contestants were divided. Class A—under 2½ horsepower—was rated at 10 miles an hour, and class B—2½ horsepower and over—at 15 miles. The riders were allowed an hour and a quarter for luncheon each day.

The arrangements for keeping the riders within their time schedule and directing their course were excellent. They wore, tied on their sleeves, a schedule of fast and slow times figured out for each class and a pad giving the route in sheets so arranged as to be torn off that the route description in use at the moment might be constantly in view.

AT THE START

The motor cyclists had ideal weather for the start of their run on Friday morning. The night before thirty-four of the original entrants reported at the New York Motor Cycle Club headquarters and it was expected that this would be the number to face the starter. W. E. Luettgens, of South Manchester, Conn., and A. R. and W. S. Marsh, of Brockton, Mass., all drivers of Marsh machines, were absent. William F. Wahrenberger joined the group at the start, but without his big Hercules machine. That was held as security for his appearance at the police court 2 hours later, having been left there the evening before. "Warry," the fact is, had been gathered in for a trifling exuberance of speed in crossing One Hundred and Twenty-fifth street the evening before. He started after the others several hours later, but being so far behind the time schedule he was not considered in the contest. F. C. Hanfield, of this city, was a fresh entry.

FIRST LADY CONTESTANT

Notable among the contestants were Mrs. G. N. Rogers, of Schenectady, N. Y., the first woman to take part in a motor cycle contest in this country. Her husband, a motor cycle dealer, was also in the run. A 14-year-old son, also a rider, sadly saw papa and mamma

THOSE WHO FINISHED

RIDER AND MACHINE	ARRIVED
J. W. White, New York, Merkel...	1:54
Joseph Downey, Roslindale, Mass.	
Auto-Bi	1:54½
G. B. Pieper, Brooklyn, Indian.....	1:56
C. N. Emerson, Lowell, Mass.,	
Auto-Bi	1:59½
Lincoln Holland, Worcester, Auto-B.	2:00
G. M. Hendee, Springfield, Mass.	
Indian	2:00
J. M. O'Malley, Hartford, Columbia.	2:05
J. H. Bartlett, Hartford, Marsh...	2:28
R. R. Boorman, St. Paul, Auto-Bi...	2:33
F. E. Domina, Providence, Auto-Bi.	3:09
B. B. Bird, St. Paul, Wagner.....	3:24
N. P. Bernard, Hartford, Columbia	3:57
W. Z. Ziegler, Elmwood, Conn., Co	
lumbia	5:46
A. A. Hoyt, Whitman, Mass., Marsh	6:25
F. C. Hanfield, New York, Orient...	6:25
F. A. Bowen, Utica, Warwick.....	6:42

THOSE WHO STARTED

RIDER	MACHINE
Frank Zirbes, Roscoe, Wis.....	Mitchell.
C. S. Mankowski, New York.....	Mitchell.
C. N. Emerson, Lowell, Mass.....	Auto-Bi.
J. W. White, New York.....	Merkel.
A. A. Hoyt, Whitman, Mass.....	Marsh.
George P. Jenkins, New York.....	Marsh.
J. H. Bartlett, New Britain,	
Conn.	Marsh.
G. N. Rogers, Schenectady, N. Y.	Merkel.
B. F. Doherty, New Britain,	
Conn.	Own Make.
Samuel McSkimon, New York.....	Mitchell.
George B. Pieper, Brooklyn.....	Indian.
Frank E. Domina, Providence,	
R. I.	Auto-Bi.
Lincoln Holland, Worcester,	
Mass.	Auto-Bi.
F. Alton Clark, Union City,	
Conn.	Auto-Bi.
Charles M. Burnham, Waltham,	
Mass.	Marsh.
John E. Oest, New York.....	Werner.
David D. Miller, New York.....	Orient.
J. M. O'Malley, Hartford, Conn.	Columbia.
Walter J. Ziegler, Elmwood,	
Conn.	Columbia.
N. P. Bernard, Hartford, Conn.	Columbia.
Frank A. Bowen, Utica, N. Y....	Warwick.
W. A. Roberts, Clinton, Mass....	Warwick.
Ellery C. Fisher, Brockton, Mass.	Auto-Bi.
W. E. Hyde, Shrewsbury, Mass.	Orient.
E. M. Rogers, Schenectady, N. Y.	Indian.
George N. Holden, Springfield,	
Mass.	Indian.
George M. Hendee, Springfield,	
Mass.	Indian.
Joseph Downey, Roslindale,	
Mass.	Auto-Bi.
R. R. Boorman, St. Paul, Minn.	Wagner.
B. B. Bird, St. Paul, Minn.....	Wagner.
John F. McLaughlin, New York.	Auto-Bi.
F. C. Hanfield.....	Orient.

off on their journey, in which his tender years prevented his participating. Veteran George M. Hendee, cycle champion in days when bicycles were propelled by legs alone, was a conspicuous figure in command of the band of Indian scouts. R. R. Boorman and B. B. Bird, of St. Paul, Minn., received warm greetings from the Easterners in appreciation of the long journey they had taken to compete in the contest. Both finished and both made perfect scores, so they were well repaid for their long trip.

The route through the city to the suburbs was out Jerome and Eighth avenues. From there on the A. C. A. endurance route was followed.

THE FIRST STAGE

George N. Holden, riding an Indian, could not resist the temptation to be first into "Hendeetown" and paid the penalty of disqualification for getting there an hour ahead of the schedule. J. W. White, of New York, Merkel; and A. A. Hoyt, of Whitman, Mass., Marsh; and C. N. Emerson, of Lowell, Auto-Bi, reached the night control at 3:30 p. m., 3 minutes ahead of schedule. They were within the rules, as a margin of 10 minutes was allowed for difference in watches and miscalculation.

The arrivals nearest to schedule were Hendee, Indian; Holland, Auto-Bi; and Downey, Auto-Bi, who got in at 3:34, the schedule calling for 3:36.

The other arrivals were Brown, Warwick; Bartlett, Marsh; Domina, Auto-Bi; Oest, Werner; Boorman, Wagner; Bird, Wagner; Pieper, Indian; Burnham, Marsh; Ziegler, Columbia; Bernard, Columbia; Doherty, Doherty; Hanfield and O'Malley, Columbia. The last named arrived at 7:36 in the evening, nearly an hour within the limit.

Mrs. Rogers failed to arrive, having remained behind with her husband, who had to quit on account of a tire puncture.

TO WORCESTER AND BACK

The start for Worcester was made at the usual hour of 6 in the morning. Downey, Auto-Bi; and Brown, Warwick, got in at 9:24, which was 4 minutes ahead of schedule time.

The scheduled arrival time at Hartford was 2:38. Hendee, Indian, got in a minute late, Holland, Auto-Bi, following him a half minute later. Oest, Werner and Doherty, Doherty, failed to show up at Hartford. The



The Hendee Squad with Indians

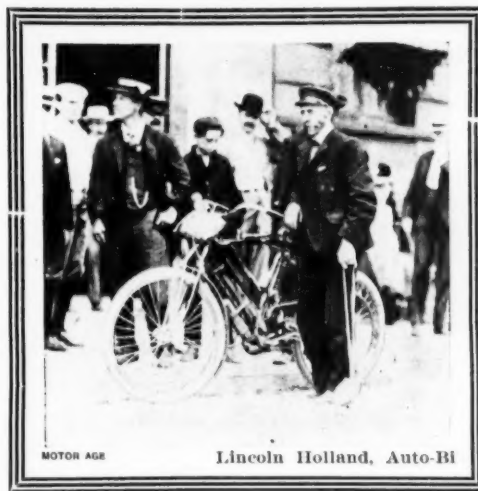


Mr. and Mrs. Rogers

former had a collision with a train near Florence. Mr. and Mrs. Rogers rejoined the run on the Fourth. Mr. Rogers broke down repeatedly and urged his wife to go on without him, but she refused. Boorman, of St. Paul, had a nasty fall on the Spencer hill, the terror of the A. C. A. run, in trying to avoid a collision with a team.

There were adventures, vicissitudes and amusing incidents encountered in sufficient numbers to last for a year of story telling around club table and fires. Domina was the record breaker for troubles encountered and surmounted. The billy goat-dog-girl episode is likely to become a classic in motor cycle lore. Goat in a lot. Girl with dog in lot, too. Dog chases goat. Girl chases dog. Goat jumps fence. Dog jumps, too. Goat rushes in front of motor cycle. Grand mixup—girl, dog, goat, Domina, bicycle. Girl finally pulls dog from goat and Domina from motor cycle. Result—only a mud guard broken.

Three miles further on Domina found that his exhaust valve was broken. He sat in de-



spair by the side of the road, when a good Samaritan appeared in the person of a junkman carrying a lot of scrap metal in a bag. The junkman asked the trouble. Domina showed him the broken valve. The junkman

said "I've got a thing like that in my bag." Domina did not believe motor cycles were common enough yet for country junkmen to have accessories, and said so, but the junkman produced a valve that with a little filing and grinding was made to fit. On the way out, when near Springfield, Domina, while trying to avoid a hay wagon, pitched through a board fence.

HENDEE GETS GOLD MEDAL

The roads were generally in good condition and none of the riders was seriously hurt, but a casualty list was made by the officials which put the death of two dogs and two chickens to the debit of the run.

Tire troubles were the worst difficulties the men encountered. George Pieper used three new tires. C. S. Mankoski had fifteen punctures in the first 38 miles, and J. H. Bartlett came in with a broken lever tied up with string.

The officials in checking up the run gave the gold medal for making the run closest to schedule time to George W. Hendee. Holland was a close second in the race for this honor.

GORDON BENNETT CUP RACE REFLECTIONS

The official figures for the five competitors who completed the Gordon Bennett course were not given out until Friday evening. The international commission was in session all morning and afternoon, and the result of the deliberations was that Jenatzy was declared the winner with a lead of 11 minutes and 40 seconds. The official time was as follows:

DRIVER AND CAR	TIME	MILES PER HOUR
Jenatzy, Mercedes.....	6:39	55.43
De Knyff, Panhard.....	6:50:44	53.97
Farman, Panhard.....	6:51:44	53.73
Gabriel, Mors.....	7:11:33	51.26
Edge, Napier.....	9:18:48	39.68

The computation of the miles per hour is based on the gross distance. Deducting the total mileage of controls it would be a little less.

The French team was the only one to complete the course without a single member being eliminated by an accident to his automobile.

FOURNIER ON THE RACE

Henri Fournier, who was replaced by Gabriel in the race by the Mors company, expressed himself as follows:

"It is greatly to be regretted that the race should have taken place on such a wretched track, for bad it must have been if such an experienced driver as Jarrott collided with an opponent.

"Although Jenatzy won, my opinion is that the cup virtually belongs to France, as three French carriages started and all finished without the slightest stoppage or accident. They were the fastest throughout.

"On the other hand, Jenatzy is entitled to full honors. He is a universal favorite, modest in manners and a clever machinist and driver. He is one of the pioneers of automobilism in France. It was his electric machine which established the first kilometer record, and it was he who first introduced the cigar shaped machine. He has been unfortunate, but he has now reaped his reward and no one here begrudges him his laurels.

"I consider at the same time the Mercedes machine as of the highest class, but, like Charon, I consider that the French machines are faster.

"I am well acquainted with the roads in Germany, and should the race take place there

next year it will be a fair field for all, as there are numerous places where it could be brought off. Not only this, but the members of the German Automobile Club are all good sportsmen and the emperor will be sure to support the affair, as he is a first-class automobilist."

WEIGHING-IN THE CARS

The Gordon Bennett cars were weighed at Naas. This town is 30 miles from Dublin and there were no facilities for weighing automobiles, but the citizens thought they were

entitled to some of the ceremonies, so it was decided to do the weighing there.

The necessity of having a weighing machine did not trouble the inhabitants. That was a minor consideration. Two small machines, each capable of weighing half a ton, were placed opposite one another. Then two lengths of tramway line were adjusted on them, one length on each, to act as guide for the wheels of the automobiles on and off the machines.

The first car on the scales was M. Gabriel's. It wobbled a little on the rails, but the official weigher pronounced it below 2,204 pounds, the maximum weight allowed by the regulations for the cup. M. Tampier, the official timekeeper, verified the weight, and the machine was wheeled away. M. Gabriel's reserve automobile was the first overweight car and had to be lightened by taking off the cushions and everything else that could possibly be dispensed with.

The English machines were all under weight and gave no trouble. Two of the Mercedes were also within the limit, but, owing to a misunderstanding, went to a yard engaged by the Mercedes firm, instead of going directly before the international committee, and they had to be weighed again in the afternoon.

Foxhall Keene's machine was too heavy, and the cushions had to be removed. Winton's car was 54 pounds under weight. De Knyff's car was 19 pounds too heavy and Farman's was 31 above the limit. These cars were stripped of the mud guards and other unnecessary adjuncts and finally came within the limit. Mooers' car was passed without difficulty.

JENATZY "NEAR HEAVEN"

Jenatzy made a speed of 90 miles an hour down one of the hills of the course, according to unofficial timing. When asked about the rate he was going at that point he said:

"It must have been something like that. The first time I negotiated it I saw a big rut, got my wheels in it, stayed there and swung around the corner at the end in safety and at top speed. The seventh and most critical time I lost the rut, but, still hoping to find it, I kept up the speed, failed to get the rut and had to take the corner anyhow. I had never been so near heaven."

MILE SPEED TRIALS AT DUBLIN

Dublin, July 4—[Special Cablegram]

—The enthusiasts who confidently predicted that the records would be broken in the speed trials in Phoenix Park, Dublin, were not disappointed. Baron de Forest made the record time of 26½ seconds for the flying kilometer today on the Phoenix Park speedway. Only a few minutes before Gabriel lowered the record to 26½ seconds, but his joy was short-lived, as De Forest swept it away by ½ of a second. The Autocar challenge cup, for vehicles of any power and weight, was awarded to De Forest, as was also the \$500 challenge cup offered by the Automobile Club for the fastest car weighing under 2,200 pounds.

Baron de Forest drove a 70-horsepower car. His speed was about 86 miles an hour.

The competitions lasted from 8 o'clock in the morning to 4 o'clock in the afternoon and were witnessed by 50,000 people. Not an accident occurred and the willingness of the crowds to make the arrangements work smoothly was exemplary.

The races were held on the main public avenue from Phoenix Park, embracing a stretch of a mile, while the kilometer speed contests were on a stretch from Castleknock in the direction of the Gough monument.

MOTOR AGE

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Every little while a member of the automobile trade will explain how he was once a factor in the bicycle trade, although the old timers in the latter have difficulty in making the connection. Evidently, it is no longer considered a disgrace to have been mixed up with the cycle industry or sport.

THE GORDON BENNETT RACE

The Gordon Bennett cup will not be wrapped in an American flag this year, but *MOTOR AGE* sees no reason in the defeat of Messrs. Winton, Moors and Owen for refraining from giving the team of Jenatzy-Mercedes, Ltd., due credit for having been about the best thing on wheels last Thursday.

It won and won fairly, openly and creditably in a fair, open and creditable race. There is no occasion for tears by Americans, Englishmen or Frenchmen.

MOTOR AGE only hopes that next year we may make a winning fight for the cup and that, anyhow, American automobilists will, with the perseverance of Sir Tommy of yacht fame, keep everlastingly after it until it is ours.

Then may it never be lifted!

This greatest of all automobile events of the year is of itself gratifying, even as its winning by so eminently an expert sportsman is gratifying when once the first regrets born of disappointment are swept aside by the hope of another chance.

Coming close on the heels of the disastrous Paris-Madrid race it has shown to the whole world that dangerous automobilism is and has been due to conditions, not to automobiles; that the kind of racing, not racing itself, has been responsible for deplorable accidents; that properly conceived and properly managed, an automobile race can be run at great speed without notable accident. Also, that the Irish who look at a race, and who discipline those who look at one, have better sense than Frenchmen under the influence of the same kind of intoxicant.

The success of the police in safely handling the crowds, and the common sense of the crowds themselves in avoiding dangerous proximity to the course during the passage of the racers, are gratifying.

There is no feature of the race in Ireland which influences toward the discontinuance of such contests. The race can go to Germany without deplorable memories to influence the German government in giving its holding sanction and assistance.

It showed that, even over a comparatively poor and dangerous course, automobile racing when properly managed furnishes good and safe sport as well as keen competition.

Just as did the interdicted Paris-Madrid race mark the limit of a certain class of motor racing, so the Gordon Bennett race demonstrated the propriety and desirability of another—the limited kind—to take its place.

The effect upon the automobile industry is easily determined.

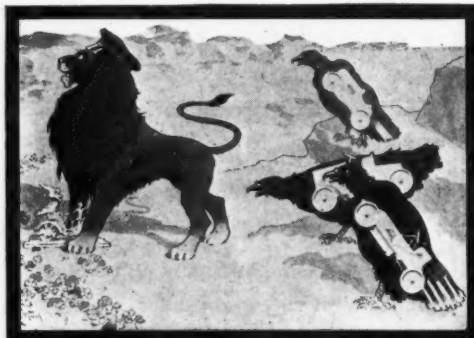
The failure of England and America to show at the finish will not greatly influence the sales of home manufactured cars in those countries.

American buyers of the ordinary class are not after racing cars and realize that American builders have not given the personal study to the construction of special road racing machines that have the continental European makers, believing them, instead, to have worked toward the rapid development of the more conservative patterns of motor cars.

Much the same condition exists in England, and in either instance it will be mainly among the wealthier buyers in London and New York that the trade reaction of the winning of the Mercedes will be felt.

On the other hand the performances of the winning Mercedes and of the three French cars will greatly stimulate the business on the continent.

Coming directly upon the heels of the expensive burning of the Daimler factory, the success of the Cannstadt-built car will prove a great incentive to the establishment of in-



This Is How the Cup Race Looked to the Autocar, of London, 2 Weeks Ago

creased facilities for the future manufacture of the cars and to increase home patronage of the business which owes its start to the father of the whole industry—Daimler.

The French industry has as great an, if not a greater, incentive to renewed activity toward maintaining its previously acknowledged lead in the production of automobiles of this class.

While not winner, it had three cars in at the finish—two Panhards and a Mors running respectively two, three and four so closely together and at so nearly the same average speed as to have all put up substantially the same grade of performance.

The effect upon international sport is equally plain.

Germany having won for the first time will be keenly anxious to prevent the lifting of the cup. France having lost and still made so gratifying a record, by being the only country represented to have all its cars in at the finish, will naturally feel confident of its ability to again win the race, even after the failure of the last 2 years.

England has the temptation of one successful race and America has enough pride and

true sporting blood to stick to the game, even though pretty well walloped this time.

There is one other feature of the race that is especially interesting to those who have passed from the bicycle industry into the automobile industry—and, incidentally, their names, while not exactly legion, are far from few.

The Gordon Bennett cup race has been run 4 successive years. Each time the pick of the internationally known cars and drivers have competed for the trophy. Each successive year the race has been won by an ex-bicycle rider.

In 1900 the race went to Charron, an old time long distance bicycle racer; in 1901, Girardot, now Charron's partner in an automobile enterprise, and at one time a short distance bicycle racer, or sprinter, won the big event a second time for France. Last year, 1902, S. F. Edge took the cup to England, and he was once a noted long distance bicycle racer. This year Jenatzy, of Belgium, won the race for the Germans, and those who can look a long way back will remember his name in the records of continental bicycle races.

There is something more than coincidence in this. Nearly all of the old bicycle riders who have become racing automobilists have proven good drivers, especially in big races.

The reason is plain enough. While bicycle racing and automobile racing are radically and essentially different, there is necessary in each to win, a certain ability to run from start to finish with well collected thoughts—a clear head.

Bicycle racing taught these men how to race without losing self-possession for an instant; how to negotiate a race with a cool head and a keen eye ever ready for the unexpected and the difficult; how to use generalship as well as skill.

Many a bicycle race was won with a good head and a second-rate pair of legs—and many an automobile race has been won because the winner had long training in the art of running a race with a keen perception of its chances, opportunities, difficulties and advantages maintained throughout the course.

Fifty-six and two-fifths seconds for a mile—63.8 miles an hour—on a flat, circular track is a pretty good performance. Barney Oldfield might well have been expected to have given Mr. Jenatzy a run for his money in the G. B. race.

A MATTER OF SPEED

Jenatzy was over the tape and winner of the Gordon Bennett cup race at 5:36 p. m. last Thursday, July 2, the publication day of *MOTOR AGE*. The cablegram announcing the fact reached *MOTOR AGE* at 3 p. m. of the same day.

At 3:40 the last forms of *MOTOR AGE* were on the press and at 4:15 the first copies of the issue were taken from the bindery.

In other words, allowing for the difference in time between Dublin and Chicago, *MOTOR AGE* went to press with its last forms 3 hours and 4 minutes after Jenatzy finished, or 40 minutes after the last of the cable dispatches was received.

The first copies came from the bindery 1 hour and 15 minutes after the cablegrams were received, or 3 hours and 39 minutes after Jenatzy had ended his great ride.

Exactly 30 minutes—2:30 to 3 p. m.—were lost waiting for a confirmation of the first

cable that announced the probable winning of Jenatzy.

Were MOTOR AGE a local Chicago paper it could have placed copies upon the streets for sale before the regular evening dailies containing the same news.

Not being a local paper, the out-of-town copies were mailed first, with the following results:

Copies going to all towns within a radius of 350 miles were delivered to subscribers Friday morning at the same time as or sooner than the Chicago morning dailies containing the same news.

MOTOR AGE reached New York for delivery Saturday morning and those who were at their offices on that day should have received the paper, barring delays caused by local restricted delivery on account of that day being the fourth of July.

This represents the quickest news service in the history of American automobile journals.

Henri Fournier at least has the consolation that Gabriel did not win—but then, Henri is too good a sportsman to have wished his countryman ill luck simply because he was laid aside to make way for the new favorite.

NO REPAIRS AT THE CONTROLS

The rules adopted by the trials organization committee of the Automobile Club of Great Britain are very strict, and their completeness insures perfect fairness to all contestants.

The trials this year will be for 1,000 miles and will be held next September. The cars will start every day from the Crystal Palace and will return there every night. At the end of each day's run the vehicles will be immediately driven into the storage room and everyone except the club officials will be excluded.

FOUR YEARS AGO LAST WEEK

Judge Gibbons of Chicago, in a test case brought by the American Electric Vehicle Co., decided that Park Commissioners had no legal right to bar automobiles of any kind, except those used for public hire, from parks and boulevards.

THREE YEARS AGO LAST WEEK

The organization of the De Dion-Bouton Motorette Co., of Brooklyn, N. Y., was commenced.

TWO YEARS AGO LAST WEEK

Henry Fournier, on a Mors, won the Paris-Berlin race, with Girardot and Rene de Knyff on Panhards, respectively, second and third.

ONE YEAR AGO LAST WEEK

Thirteen of thirty-one starters survived throughout the first American motor bicycle endurance contest, which was run during 2 days, from Boston to New York. Holley, on a Holley; Hendee, Sherman and Pickard, on Indians; Bernard, on a Crescent, and Roberts and Jameson, on Orients, received gold medals.

There are seventeen headings under which marks will be awarded, the most important of which are general reliability, cleaning and replenishing, hill climbing and condition after trial. Speed on the track, fuel consumption and dustlessness coming next. The vehicles are divided into classes according to their advertised price, and separate awards given to each class. The order of the cars in those classes will be determined by the total number of marks awarded them under all headings. The car that loses the fewest marks under any particular heading will be finally given the maximum marks allotted to that heading, the marks of the others being proportionately varied.

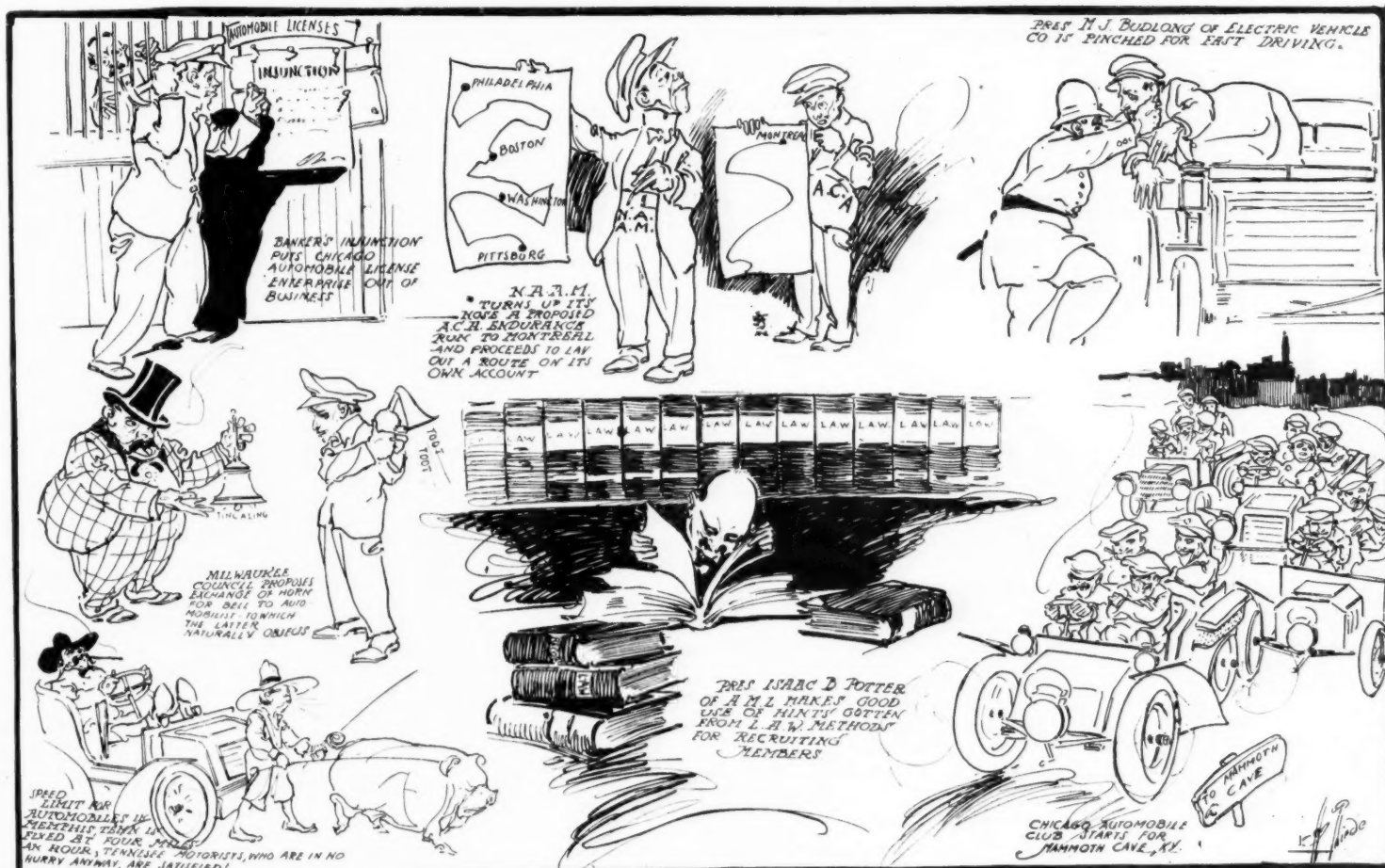
The fuel consumption will be measured every day, and the hill climbing contests will be introduced on several different days as part of the ordinary run.

The great interest over the Gordon Bennett international cup race and other current automobile events of a sporting nature has put the chauffeur discussion temporarily out of business. Or have the eastern professional drivers reformed suddenly, with view to holding up clean hands before the various dealers' associations?

MINIMUM WEIGHT LIMIT

Why should there be a minimum weight limit for cars competing in such events as the international cup race? Just now there is starting a reaction in racing car structure, light cars with moderate motors having performed unexpectedly well on several occasions. The greater credit in car building is to the man who can make a light, small car that will win out of its class. His efforts should be repaid by opportunity to compete in big open races.

FEATURES OF JUNE AUTOMOBILING HISTORY



WORLD'S MILE TRACK RECORD NOW :56 2-5

Oldfield Celebrates the Fourth at Columbus by Breaking the 1, 5 and 10-Mile Records Much to the Edification of the Ohioans to Whom Such Performances Were an Exciting Spectacle—Other Events Closely Contested

Columbus, O., July 5—The Columbus Automobile Club held its first race meet yesterday at the driving park and nearly 10,000 people witnessed it. Barney Oldfield smashed the world's track records for 1, 5 and 10 miles. His previous record for a mile was 59 $\frac{3}{4}$, but Saturday he lowered it by 3 $\frac{1}{2}$ seconds, making it 56 $\frac{2}{5}$.

He cut 10 $\frac{1}{2}$ seconds off the world's and his own record, 5:04 $\frac{1}{2}$, for 5 miles, doing it Saturday afternoon in 4:54. For 10 miles—10:50—he took the record away from Winton, performing the feat in 9:54 $\frac{3}{4}$, a reduction of 55 $\frac{1}{2}$ seconds.

REAR TIRE GIVES OUT

Oldfield made but two trials, one of 5 miles and the other 10. He was scheduled to do a 1-mile exhibition also, but to save his machine it was omitted. Luckily, it was unnecessary, for at the end of the last, the 10-mile event, the right hind tire was found to be ready to burst. There was a gash torn in it at one place fully 12 inches long, laying bare the inside cloth. There was also another rent, on the same tire, about 5 inches long. Had the machine been run another mile there is every probability that Oldfield would have run his last race.

SPECTATORS AMAZED

Two of the afternoon's races had been pulled off when the "red devil" swung onto the track at the north gate, rounded the turn and tore diagonally up the home stretch toward the outside fence, at sky rocket speed. Bareheaded and in a flaming red coat Barney Oldfield darted past the judges' stand, with a wave of one hand to the audience and another as a signal to the judges.

A cheer rose from the spectators as he passed, grazing the fence, it seemed; and people held their breath in amazement as he rounded the turn, his hind wheels skidding on the turn and throwing out a cloud of dust to the side, and into the faces of those leaning over the fence.

He flew down the back stretch at a great pace, but soon his machine was seen to slacken its speed. He finally stopped at the north gate to remedy a case of mis-firing and then came down the home stretch once more, this time to break the world's record.

UNDER RECORD FIRST LAP

Again he gave the signal and shot by, kicking up another cloud of dust, hugging the south turn, and annihilating time and space on the back stretch. He made a pretty turn into the home stretch, and passed under the wire in 59 $\frac{3}{4}$ seconds, breaking the world's record by $\frac{2}{5}$ of a second. The crowd did not know it had been done until the event was long over.

The second mile was done in 59 $\frac{3}{4}$, the third in 1:00 $\frac{1}{2}$, the fourth in 1 minute flat, and the fifth in 1:00 $\frac{1}{2}$. When the total had been counted the judges and timers leaped in glee, for the world's record for 5 miles had been broken by 3 $\frac{1}{2}$ seconds. The time was 5:00 $\frac{1}{2}$.

Having broken the 1 and 5-mile records, and doing every mile in better time than any one else on a mile oval track, Oldfield set out to

break the 10-mile record and succeeded. Four other events were first run, and once more the crowd grew eager as the big red racer left the north gate and swooped down the home stretch. This time there was no holding in. The machine was going at its fullest speed when it passed under the wire. Plainly Oldfield was out for time. He circled the oval in 56 2-5 seconds, 31-5 seconds better than the world's record made at Indianapolis, and 23-5 seconds better than the record he made but an hour before in the 5-mile trial. He did the second mile in 59 flat, again beating the record made at Indianapolis, for the third time during the day. He qualified the record of Indianapolis in the third, fifth, sixth and ninth miles and went the fourth and eighth in 1 minute flat, and the seventh in 1:01.

The 10 miles altogether were done in 9:54 4-5. Winton's last plume had been snatched from him. Oldfield bettered his record by 55 1-5 seconds.

GREAT OVATION

As Oldfield slowed up in front of the grandstand hundreds of people left their seats and rushed to the track, eager to greet him. They shouted for a sight of him and wanted him lifted on shoulders, but one of the judges, John Y. Bassell, led him up onto the judges' stand and introduced him to the crowd, as the world's track record holder for 1, 5 and 10 miles. Barney modestly acknowledged the prolonged cheers and departed.

The track was in good condition, though dry and dusty. The trials were run under the rules of the American Automobile Association and the records made are official.

OTHER RACES INTERESTING

The interest in the other seven events was about evenly divided. The winner of each as he drew up before the judges' stand and was presented with a silver trophy cup was loudly cheered. The feature of the afternoon in the minor events was the work done by an Olds machine owned by Frank E. Avery and driven by D. M. Huss. It carried off three first prizes, winning two 3-mile events, and the 10-mile handicap. In this race W. Money Penny, with a Stearns, who finished second, was scratch man. Dr. C. M. Taylor, president of the club, carried off the honors in the 5-mile steam race with his White, the time being 8:28.

MOTOR CYCLE RACE A WALK-OVER

The 5-mile handicap motor cycle race was won by E. Wollenweber in 8:35. This event proved both interesting and laughable. Three machines entered. The winner was given a handicap of $\frac{1}{4}$ of a mile, it being but a 3-horsepower machine. A machine owned by the Wisconsin Wheel works and ridden by E. C. Beyer was placed on scratch, while one owned by R. P. Hixon was given a start of a quarter of a mile. The latter dropped out at the end of the first mile and the belt on the scratch machine, which led up to the end of the third round, broke then. It was $\frac{3}{4}$ of a mile in the lead and its rider pedaled to the judges' stand, ahead at the fourth lap. Its slow progress made it possible for the other man to pass it, and it withdrew from the race.

Many of the automobiles in the other events were disabled and had to retire. The General, driven by J. F. Dixon, was pulled out of the 10-mile handicap at the end of the fifth mile, its driver thinking the race was only a 5-mile event.

SUMMARY OF EVENTS

The summary of the races on the program is as follows:

Three-mile race for gasoline cars under 1,200 pounds—Won by D. M. Huss, Oldsmobile; J. E. Dixon, General, second; J. O. McDonald, Cadillac, third. Time, 4:55 4-5.

Five-mile race for steam cars under 1,800 pounds—Won by Dr. C. M. Taylor, White; E. M. Lied, White, second. Time 8:28.

Five-mile exhibition by Barney Oldfield—Time by miles 0:59 1-5, 0:59 4-5, 1:00 4-5, 1:00, 1:00 4-5; total 5:00 3-5.

Five-mile open for cars of all powers and weights—Won by William Money Penny, Jr., Stearns; J. F. Dixon, General, second; Dr. C. M. Taylor, White, third. Time 7:37.

Five-mile race for gasoline cars over 1,800 pounds—Won by William Money Penny, Stearns; William Neil, Winton, second. Time 7:45.

Five-mile handicap for motor bicycles—Won by E. A. Neff, Marsh. Time 8:35. Other competitors dropped out.

Three-mile race for gasoline cars from 1,200 to 1,800 pounds—Won by D. M. Huss, Oldsmobile; J. F. Dixon, General, second. Time 5:10.

Ten-mile handicap, open to cars of all weights and powers—Won by D. M. Huss, Oldsmobile; William Money Penny, scratch, second. Time 15:28.

Ten-mile exhibition by Barney Oldfield—Time by miles 0:56 2-5, 0:59, 0:59 3-5; 1:00, 0:59 3-5, 0:59 3-5, 1:01, 1:00, 0:59 3-5, 1:00; total 9:54 4-5.

THE OFFICIALS

The officials were: Referee, Edward Broadwell; judges, J. Y. Bassell, H. M. Gates, Dr. Wardlow; timers, Dr. A. E. Evans, Dr. Dick, Fred Lied; clerk of course, Thomas Curtin; assistant clerks, Frederick S. Hanner, W. Wenden; starter, Thomas Sweringen; announcer, F. H. Auld; umpires, Thomas Midgley, Dr. Wissinger.

MOTORS ON DERBY DAY CARD

Automobile Race Star Feature at Minneapolis Horse Race Meeting—Peerless Wins the 5-Mile Contest

Minneapolis, Minn., July 2—One of the principal attractions of Derby day here yesterday was the automobile race. It was a new feature and something which the people of this city have been looking forward to eagerly.

The race was for 5 miles and was divided into two heats because of the number of entries, and the winners were judged according to the time made. The starters in the first heat were H. D. Savage, with a 16-horsepower Peerless; J. B. Gilfillan, with a 20-horsepower Winton, and Charles P. Joy, with a 6-horsepower Rambler.

The race was between the two big machines, as the little Rambler found it impossible to keep up, although it stuck to the race for several miles. Savage took the lead with his Peerless and carried it for nearly 2 miles. Then Gilfillan overtook him and succeeded in heading him for a time. The machines entered the home stretch together, but the Peerless managed to forge under the wire 2-5 of a second ahead of the Winton. The time for the 5 miles was 8:34.

In the second heat E. H. Moulton drove a Peerless. George W. Peavey entered a Winton, and N. E. Brown a Cadillac. The start of the heat was sensational. Moulton ran to the front and stole nearly four lengths over his nearest competitor in the first mile and a quar-

ter. He covered the first mile in 1:37 1-5. As he entered the back stretch on the second mile he suddenly slowed up and withdrew from the race. It was found that the gasoline supply had been accidentally cut off before the machine started. The Winton then had a clear field and finished the 5 miles in 8:39 3-5. The Cadillac withdrew in the third mile. Savage with his Peerless was, of course, winner of the whole event.

The other races of the week were postponed to July 6 and 7 on account of rain.

COMMISSIONERS CLAIM FAIRNESS

**Automobile Regulations Made in the District of Columbia
Defended Before Judge—Motorists Await Decision**

Washington, D. C., July 6—After a number of postponements, the hearing in the case of Carl J. Lockwood, an automobile dealer, against the district commissioners, to restrain the latter from putting into effect certain automobile regulations, has at last been heard by the court and Justice Gould now has the matter under advisement. It is expected that his decision will be rendered some time during the coming week.

MOTOR AGE readers will remember that Lockwood alleged that the regulations would greatly injure his business as a seller and renter of automobiles; that they would prove detrimental to many owners of automobiles, and further that they exceeded the administrative authority vested in the commissioners, and were unreasonable and contrary to the law. All these allegations were supported by affidavits of thirty-five automobilists. In their final answer the commissioners follow along the lines of their answer to the first bill of complaint, but also cite additional facts and arguments. They deny the speculative allegation that Lockwood's business would be injured by the proposed regulations. The commissioners also contend that they are entitled to enforce the regulations by prosecutions in the police court, and if complainants are entitled to a trial by jury such trial will be granted them. They also deny the right of Lockwood to conduct his business contrary to usual and reasonable police regulations, and further deny the right of the complainant, if such be contended for, to use the public streets for automobile purposes "as though they had an exclusive property therein and without the due, needful and proper regulations which the commissioners have passed in and about said streets for such purposes."

The commissioners make further denials of Mr. Lockwood's allegations, and in conclusion maintain that said regulations have nothing whatever to do with the business or property rights of the complainant, that the property rights of any person will not be impaired or destroyed by the regulations; that the liberty of any person will not be affected by them, and that the only way they have of enforcing the regulations is by a criminal prosecution. For these reasons the commissioners assert that an equity court has no jurisdiction over the case and cannot give the relief prayed for.

Extended argument by counsel for both sides was then made, no new facts, however, being adduced. The court then announced that he would take the matter under advisement.

There are about forty automobile owners in Rockford, Ill., and they expect to organize a club in the near future.

ARDENNES CIRCUIT WELL MANAGED

**Fast Races Run Without Accident of Serious Nature—Victory of de Crawhez Popular
—Light Car Races Are Fast**

The meet of the Ardennes circuit in Belgium June 23 and 24 demonstrated that with proper precautions there need be no accidents to render such sport food for sensation mongers. The admirable manner in which the authorities carried out their part of the arrangements in protecting the course from intrusion practically assured freedom from danger. The method also adopted of sending the cars off so that only vehicles of a relatively equal power were running at the same time on the course eliminated the necessity to a large extent for passing and repassing. The meeting was conducted on lines similar to those of the Gordon Bennett race, and the only accidents occurring were some trifling breaks which resulted in a few slight bruises and small damage to the vehicles.

THE HEAVY CAR CIRCUIT

The Ardennes course resembles the Gordon Bennett course in Ireland in shape, but is only about one-half the size and has only one loop.

As stated in the dispatches previously published in MOTOR AGE, the race was won by Baron Pierre de Crawhez, who covered the distance of 318 miles in 5:52:07, which is a speed of 53½ miles an hour. This lowered the time of last year over the same course just 1 minute. Charles Jarrott, the winner last year, started third in this race, but was forced to quit early because of persistent tire troubles. There were twenty-seven cars entered in the race, but only eleven finished before the control was closed. These were:

DRIVER AND CAR	TIME	MILES PER HOUR
Baron de Crawhez, Panhard.	5:52:07 3-5	53½
Girardot, C. G. V.	6:12:11 4-5	51
De Bron, de Dietrich	6:24:29 1-5	49½
Le Blon, Gardner-Serpollet.	6:31:03	48½
Béconnais, Darracq.	6:48:05	48
Coppee, Germain	6:57:14 3-5	46½
Volgt, C. G. V.	7:04:40	45
Guders, Pipe	7:10:17 3-5	44
Hautvast, Pipe	8:26:56 4-5	37½
Sidney Girling, Wolseley	11:15:54	28
Van de Poele, Pipe	11:25:48	27½

GREAT RIDE BY DE CRAWHEZ

The winner of the race is very popular with the people, for it was he who established the Ardennes races. The car he drove to victory was the same Panhard he drove in the Paris-Bordeaux contest a few weeks ago.

The start was made from Bastogne at 3:15 a. m. Baron de Crawhez was first, and the rest followed at intervals of 1 minute. The baron made the first lap in 56 minutes and 40 seconds. The second lap was made in 56:16, the third in 57:46, the fourth in 58:08, the fifth in 56:24 and the sixth in 57:11. The regularity of running of the car is shown in the slight variation of the time for each lap of 53 miles. Girardot made the circuits with almost the same punctuality.

VANDERBILT OUT OF IT

W. K. Vanderbilt, Jr., made only one lap, his time being 58:16. He and the baron were the only drivers who completed the first lap under the hour. The cylinder head of Vanderbilt's car blew out and he had to retire from the race.

The English Wolseley cars driven by Messrs.

Girling and Callan had tire troubles; Mr. Lisle's car, a Star, was damaged in a collision and Mr. Heath's Panhard was slightly damaged. M. Beconnais' machinist fell from the car and was injured, but not seriously.

THE LIGHT CAR CIRCUIT

The light car race was held in the afternoon and was open for vehicles weighing from 400 to 700 kilograms. The course was twice around the circuit. This race was won by Baras on a Darracq. His time was 38 minutes and 31 seconds more than the time of Baron de Chawhez. The light car records were as follows:

DRIVER AND CAR	TIME	MILES PER HOUR
Baras, Darracq.	6:30:38 1-5	48¾
Tavenaux, Gobron-Brillie	6:56:01 1-5	46¾
Cagno, Fiat	7:06:56	45
Osmont, Darracq.	7:16:30 2-5	43¾
Hemery, Darracq.	7:33:48	41¾
Journu, de Dion-Bouton	8:02:10	39½
Bardin, de Dion-Bouton	8:16:48	38½

On the second day the course was slightly different and was run over a distance of 92½ miles. This circuit was made twice, giving a total mileage of 185. Wagner, on a Darracq, was first, his time being 3:55:27. Villemain, on a Darracq, was second, time 4:27:53. Denis, on a Denis-de-Boisse, was third, time 5:39.

Demester, on a Griffon, won the motor cycle race over this course in 4:59:46.

KENTUCKIANS LIKE MOTOR RACES

**Glorious Fourth Meeting at Lexington Attracts Large Crowd
—Indianapolis Enthusiasts on Hand to Compete**

Lexington, Ky., July 4—The automobile race meet held here today under the auspices of the Indianapolis Automobile Racing Association was the first ever given in Lexington, and proved an immense attraction, people coming from all parts of the state. The feature of the races was to have been a 5-mile run by Tom Cooper, but in a trial mile something went wrong with one of the motor cylinders of his machine and he could not attempt fast driving.

The first race was for 1,200 pound machines for 5 miles, open to all. The entries were Frank Seearce, C. O. Updyke and Will Muir, all of this city. Muir won in 11:02½.

The second event was a 5-mile match race between Carl Fisher, of Indianapolis, Ind., and Earl Kiser, of Dayton, O., Kiser finishing in 8:09½. The next event was a 5-mile handicap, the entries being Kiser, Fisher, Jack Graham, of Chicago, Andy Keenan and J. D. Neave, of Cincinnati, O., and Frank Seearce, of Lexington. Graham, who had a 3-minute start, won in 11:05.

The closing event on the program was a 5-mile race for machines weighing over 2,000 pounds, and was arranged especially for the Chicago tourists who were on the way to Mammoth cave. This was declared off as the party passed through here Friday morning and could not remain over for the race.

OLDFIELD VERSUS FOURNIER

Barney Oldfield has wired an acceptance of a challenge to race Henri Fournier at the Empire City track on July 25. This match was arranged to take the place of the abandoned Fournier-Winton match.

On account of financial embarrassment the Foster Automobile Co., of Rochester, N. Y., has been obliged to suspend business.

G. A. WYMAN THE FIRST TO CROSS

Plucky Golden Gate Boy on Motor Bicycle Makes the Initial Motor Vehicle Trip from the Pacific to the Atlantic

New York, July 6—George A. Wyman, who started from San Francisco on May 17 to cross the continent on a motor cycle, succeeded in his attempt when he reached the New York Motor Cycle Club house at 1904 Broadway at half past 5 o'clock this afternoon after a trip of 50 days, including all stops.

The gritty Golden Gate stripling thus won for himself the honor of being the first man to ride and push a motor-driven road vehicle from the Pacific to the Atlantic.

Wyman cannot tell the exact distance he covered in his ride owing to his having lost or broken four cyclometers and then abandoned the attempt to keep an exact record of the weary miles he traversed.

OTHER CROSS-COUNTRY VENTURES

Wyman's most noted predecessor in trans-continental road traveling was Tom Stevens, who in 1885 made the ride between the oceans on a bicycle in his world-famous round-the-world trip.

Alexander Winton essayed the feat in an automobile last year, but gave up the attempt in its early stages.

E. T. Fitch and M. C. Krarup are now pushing their way through Utah in a ride from the Pacific to the Atlantic in a Packard. They left the Cliff House, San Francisco, on June 20. The machine is holding out well and excellent progress is being made.

WYMAN'S ROUTE

Wyman is 20 years old, 5 feet 7 inches high and weighs 153 pounds. The offer of a California motor cycle was all the inducement the boy needed to satisfy his craving for adventure in a battle across the continent to New York. The machine he rode is of light weight and low power—90 pounds, 1½ horsepower.

The route the plucky transcontinent pilgrim chose was through Nevada, Utah, Wyoming, Nebraska, Iowa, Illinois, Indiana, Ohio, Pennsylvania and New York.

The itinerary of his trip was: San Francisco, May 21; Omaha, June 17; Chicago, June 18; Buffalo, June 30; Albany, July 4; New York, July 6.

Despite the rough going, the first serious mishap to his machine occurred a few miles west of Chicago, where a motor crank broke. This caused a delay of 5 days, until one was received from San Francisco to replace it.

Buffalo was reached before the light machine began to give serious trouble. Here the motor gave out through rough usage and crystallization, and, in fact, weakness began to display itself in other places. Thirty

miles this side of Albany the motor quit work. The gritty westerner would not stop for repairs and pedaled all last night.

As he entered this city by the old post road he missed "Pit," George Anders and the Miller boys, who had been waiting all day for him on Jerome avenue.

"I guess I must have driven my machine," said Wyman, "and pushed it through snow sheds for fully 1,500 miles of the way."

Wyman is being made a hero of at the New York Motor Cycle Club to-night. He is stopping at the Herald Square hotel.

OVER A HUNDRED GO TO ELYRIA

Cleveland Club Sends Strong Delegation to Elyria's Fourth of July Celebration and Motor Car Race Meet

The Automobile Club of Cleveland, 125 strong, went to Elyria, O., in thirty cars on July 4, and after giving a parade over the streets of the city, accompanied by the local club, the party went to the driving park, where a number of racing events were held. The first of these was a 1-mile race in heats. A. Auble, of Wadsworth, O., came in first, and Dr. Springsteen, of Cleveland, was second.

The 10-mile race, open to all comers and to machines of all weights and powers, was won by L. De Rango on a Peerless. E. Parsh, Peerless, was second. The other competitors were H. Tumie and L. Milanowsky on Winton cars. The 1-mile motor cycle race was won by Servis Miller, of Cleveland.

TWO RACES AT OMAHA

Two automobile races were held at Omaha, Neb., June 28 under the auspices of the Omaha Driving Park Association. In the 3-mile race for machines of from 4 to 8-horsepower, there were only two entries. Both of these were Rambler cars. The race was won by H. E. Frederickson in 7:22. In the 3-mile handicap two 16-horsepower Peerless cars were entered. This was also won by Frederickson, who covered the distance in 6:02.

ABANDONS NUMBERS ON THE SIDES

Massachusetts Highway Commission Generously Decides That Numbers Front and Rear and on Lamps Are Enough

Boston, July 6—The Massachusetts highway commission, which has charge of the registration of automobiles and the licensing of operators, will take up its work during the week. Last Wednesday it was taken over the roads as the guest of Harry Fosdick, the local Winton representative, who showed to it by actual demonstrations how well a machine looks with numbers placarded all over it, as was provided by one of the many drafts of the original bill. In the company of the commission was Representative Phinney, who throughout the last session of the legislature was the most ardent supporter of the automobilists. The demonstrations were so thorough that at a subsequent meeting of the commissioners it was determined that the machines shall carry numbers in front and rear, but that none need be displayed on the sides of vehicles. This, of course, was a sort of victory for the automobilists, who were inclined to believe that they would have to travel through the country like circus band wagons.

PARK AND STATE NUMBERS.

The commission will supply the numbers to the chauffeurs so that there will be no expense to the motorists, although owners will have to pay for the painting of their registration number on the lamps of their cars. There will probably be no conflict in the state and park numbers. The two commissions are to hold a joint meeting and it is believed that it will then be decided that one number will serve both purposes. The local park commission has a regulation which prevents cars not registered by it from being operated in the park system, but it is believed that the park commissioners will do away with their numbers and recognize the state numbers.

The numbers which the state commissioners are to issue will be Arabic, 4 inches long, white on a blue background. All of the registration of automobiles will be done by mail, as will also the greater portion of the work of licensing. Each application for a license must be accompanied by three certificates from residents of the town or city in which the applicant resides, and these to bear witness to the applicant's ability to properly drive an automobile. In each of the large cities and towns the commission says it knows one or more men who are thoroughly reliable and able to judge a man's ability. When the application is endorsed by any one of these men the license will be granted without question; still the commission has the right to



MOTOR AGE

C. G. Smith, a Packard Owner of Macon, Ga., Meets a Man Who Would "Ruther Hev a Bullock."

make the applicant pass an examination if the references are not considered satisfactory.

MOTOR CYCLE NUMBERS

The motor cycles caused the commission more or less trouble in determining just how they should be labeled. It was finally decided that the registration number should be carried on the rear of the saddle, and also on the headlight. In order to be the more readily distinguished the numbers for motor cycles shall be known as series Z, that letter to be prefixed to the registration number. The registration numbers will begin at 1 and run to 9,999, and then a new series A will be started and run to A 9,999, so that each 9,999 registrations will have a distinct series.

The commission will issue copies of the new law, the rules of the road and other data important to the applicant.

ONE MEET MAKES ANOTHER

Success of Columbus Club on Fourth Leads to Plans for Big Race Meeting First Week in September

Columbus, O., July 7—The regular monthly meeting of the local automobile club was held last night at the rooms of the Engineers' Club. Very little was done in the way of business, most of the time being spent by those present in exchanging congratulations on the success of the Fourth of July race meet, and the marvelous growth of the club membership, which has increased in 3 weeks from twenty-one to 112 active and enthusiastic motorists.

Plans for club rooms were discussed, but nothing definite was decided. The committee which had in charge the arrangements for the recent race meet was continued, and instructed to secure the driving park for races on Labor day, and if they succeed in this, to arrange for races between the most noted drivers and machines that can be secured.

DETERMINED FIGHT IN CALIFORNIA

The Automobile Club of California will test the ordinance recently passed by the board of supervisors of Marin county. One clause of the ordinance prohibits the use of the road by automobilists between sunset and sunrise. P. F. Rockett, a member of the club, was arrested about 9 o'clock one evening. He was released on bail, but the next day the bail was withdrawn and Rockett returned to the custody of the constable. His attorney petitioned for a writ of habeas corpus on the ground that the ordinance under which he was arrested is oppressive, discriminating, unreasonable and unconstitutional. Should the decision be against the automobilists in the Superior court, it is their intention to carry the matter to the Supreme court.

RACES IN SOUTHERN OHIO

The Hamilton county, Ohio, fair, which has been held at Carthage, a suburb of Cincinnati, for the last 48 years, will this year be transferred to Oakley, and on August 18 there will be a number of automobile races. These will be as follows: Two-mile race for light steam cars; 5-mile race for light gasoline runabouts; 3-mile race for medium weight steam cars; 5-mile race for medium weight gasoline cars; 10-mile race for gasoline touring cars. There will also be similar races at the Carthage fair grounds, which will be held under the auspices of the Independent Fair Association

CHICAGO TO ENFORCE NUMBERING

Despite Injunction Against Enforcement of Licensing, the City Fathers Send Motorists Warning To Carry Numbers

Every owner of an automobile in Chicago was the recipient Tuesday of this week of an official-looking envelope from the department of electricity of Chicago. Inside was a circular with the following "Important Notice":

Dear Sir:—Your attention is called to the ordinance passed June 8, 1903, requiring the numbering of all automobiles. This ordinance will be strictly enforced after July 8, 1903.—BOARD OF EXAMINERS OF AUTOMOBILE OPERATORS.

THE ORDINANCE

Below this was published the ordinance in full, as follows:

Be it ordained by the city council of the city of Chicago:

Section 1—That hereafter all automobiles operated in the city of Chicago shall display identification numbers and letters as herein provided. Such numbers and letters shall be not less than 5 inches high, and the line marking the number or letter shall be white and be $\frac{5}{8}$ of an inch wide at every point, and such numbers and letters shall be placed at least $\frac{3}{4}$ of an inch apart.

Sec. 2—All such numbers and letters shall be painted on black signs or plaques of wood, metal or leather, or directly on the machine itself, provided the machine be painted black at this particular place; and such particular signs or plaques shall be so attached to the machine that they will not sway in any direction independently of the motion of such machine.

Sec. 3—Such numbers and letters shall be displayed on the rear of the machine, in plain sight, as nearly as possible in the middle of such machine, and shall be low enough so as not to be hidden by the hood or any other obstruction on the machine.

Sec. 4—The numbers shall be of Arabic numerals and the letters in plain capital type.

Sec. 5—For the purpose of the enforcement of this ordinance all automobiles are hereby divided into two classes:

Class A—Private automobiles. Such automobiles shall display a number as herein provided, and such number shall correspond with the number of the operating license issued to the owner of said automobile.

Class B—All public automobiles engaged in the transportation of passengers, merchandise, or any other business purpose. Such machines or automobiles shall display a number corresponding with the license number of the operator of such machine, and in addition thereto shall display a letter or letters of similar size and design which shall indicate the person, firm or corporation by whom such automobile is owned, and such letter or letters shall be registered or recorded in the office of the city clerk as being the designating letter or letters of such owner.

Sec. 6—All automobiles, when in use on the streets, shall have and keep a lighted lamp or lantern, from sunset to daybreak, which shall throw a red light directly to the rear of the machine and a white light on the letter and numbers, in such manner as to make such letter and numbers plainly visible and legible.

Sec. 7—Any person, firm or corporation violating, disobeying, neglecting or refusing to comply with any of the provisions of this ordinance shall be subject, on conviction, to a penalty of not less than \$5 nor more than \$25 for each offense, and in

the discretion of the mayor, to a revocation of the automobile license of the person operating any automobile at the time of any violation of this ordinance.

Sec. 8—This ordinance shall be in full force and effect from and after its passage and due publication.

Just what the city will do with automobilists who have no licenses and hence no license numbers is hard to determine, the city at present being under the restraint of an injunction preventing the enforcement of the licensing ordinance, this being permanent unless an appeal is taken.

CLUB HOUSE FOR PITTSBURG

Plans Laid for Expenditure of \$25,000 on Building To Be Done by Middle of September—Speed Trials

Pittsburg, Pa., July 5—The Pittsburg Automobile Club has had plans drawn for a new club house that will cost at least \$25,000. The project has been under consideration for some time and was brought to a head by the announcement that the National Association of Automobile Manufacturers would make its run this fall from New York to Pittsburg. It is expected to have the club house finished by September 15.

Great interest is being manifested in the speed races which are to be given by the Automobile club on the Beechwood boulevard next Saturday, July 11. Secretary Smith has written to all the leading makers of the country asking them to furnish entries for the free for all event, which is expected to produce some fast miles. There will be nine classes, one open to motor cycles, one to electric cars, one free-for-all, open to any class or weight of machines except motor cycles, two for steam cars of different weights, and four for gasoline cars, divided into classes from under 1,000 to over 2,000 pounds.

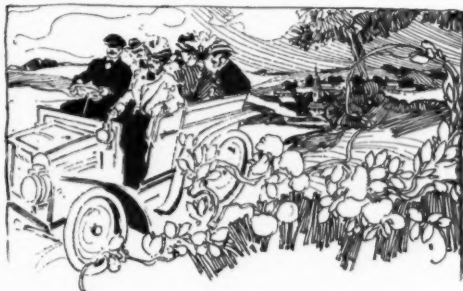
GREAT SHOWING OF A LIGHT BENZ

The 24-horsepower Benz racing car which arrived twenty-ninth in the Paris-Bordeaux race and recently won the principal annual German road race, has added two more victories to its list, this time in pure speed contests. In a kilometer race at Huy, Belgium, Barberoux, on his racer covered the distance in 30 1-5 seconds, or about 73 miles per hour. Baron de Caters on 60-horsepower Gordon Bennett Mercedes was second in 31 seconds. Villemain on a voiturette Darraq, third in 33 4-5; Osmont on a light Darraq fourth in 35 1-5, and Griet on a Griffon motor bicycle sixth in 37 seconds. There were seventeen other contestants.

In a hill climbing test over a course of about 1,500 yards, with the grade varying between 8 and 10 per cent, the Benz car was first in 45 2-5; De Caters on his Mercedes was second in 48 1-5; Villemain on his voiturette Darraq, and Griet on his Griffon motor bicycle dead heat for third honors in 54 seconds.

WESTERN CLUBS TO MEET

The Automobile Club of Kansas City, Mo., elected officers for the ensuing year at the meeting last week. The club also planned to entertain the Interstate Association at a date to be set later. The association consists of clubs in St. Joseph, Topeka, Leavenworth, Atchison and other nearby towns. The officers are: President, William Huttig, Jr.; first vice-president, Harry Loose; second vice-president, Dr. G. L. Henderson; treasurer, Henry C. Merrill; secretary, Myron C. Albertson; captain, R. Sanborn; lieutenant, A. C. Griffith.



KENTUCKY HOSPITALITY FOR CHICAGOANS

Southerners Prepare Rousing Welcome for the Long Line of Automobilists Bound for Mammoth Cave—No Pains Spared To Make Greeting a Huge Success—Story of the Arrival at One Center of Hospitality

Hackberry Corners, Ky., July 3—As I have written considerable for the local paper here, I was selected at a meeting of the prominent citizens last week to report to your paper about the visit of the Chicago Automobile Club to our town. This has been an event which we have all looked forward to with great pleasure ever since we heard about it. Theophilus Seraggs, the school teacher, takes the Chicago weekly paper, and he saw a piece in it where it said the Chicago Automobile Club was going to Mammoth Cave in automobiles, and the procession would pass through our town.

ONLY ONE INITIATED

There has never been no automobiles here, and nobody has ever seen none except Jim Whetstone, who keeps one of the leading stores here. Jim went to Louisville this spring, and he saw one go whizzing down the street. He said it went like thunder—only he didn't say "thunder." I suppose you are not allowed to print words like he would use in ordinary conversation. Jim talked so much about it that the boys got tired listening to him and quit loafing there. Jim shut up on automobiles when he found all the fellows had gone over to the other leading store to spend their leisure time.

When Professor Seraggs read the piece in the paper he hastened to Jim's store and told the assembled crowd that a whole lot of automobiles were coming right here and we could see them with our own eyes. We could hardly believe it at first, but after awhile the excitement sort of died down and we began to plan a reception.

THE PESSIMIST

The paper said there would be twenty automobiles and about seventy-five people in the crowd. "Bet that hain't so," said Bill Williams. "Them city papers lie like thunder"—only he didn't say thunder. "There ain't that many of them things in Chicago. Why, they cost purty nigh onto \$5,000 apiece. There'll be about four or five, maybe." Bill always looks on the dark side of things, so we didn't pay no attention to what he said.

"Guess we'll have to have a spread over to the boardin' house and show them city fellers we know how to feed down here," observed the editor of the paper.

"Better send up to the mountain and git some extra moonshine," spoke up old Judge Taylor, who drives the stage and does chores around Higgins' bar-room.

LOCAL EDITORIAL

It was finally arranged that Professor Seraggs should make a speech of welcome and a salute of anvils would be fired as the cavalcade entered the town. A committee was appointed to secure a tent for storing and showing the automobiles while here. The editor went to his office and wrote an editorial which was printed the next week. Here it is:

"The automobile has come to stay. Our forefathers traveled in stage coaches, then came the steam engine invented by Isaac Newton, and then the fast-flying cable and electric cars. Now we have the automobile in our

midst and it has come to stay. The automobile is propelled by gasoline, steam and electricity, and it is said it can go 30 miles an hour. In some states they have laws compelling them to go not faster than an ordinary horse travels. If they can go as fast as an ordinary Kentucky horse they are welcome to pass us. A large number of automobiles from Chicago will be in our city next week and our citizens are earnestly requested to decorate their residences and turn out and celebrate the event. Let us show our civic pride by making this a gala day. The automobile is the vehicle of the future and we should encourage it. It has come to stay."

THE EXPECTED COMES

The long-expected day at last arrived and everybody was up early preparing to celebrate. Professor Seraggs figured that they would arrive about 10 minutes apart, and as there would be twenty automobiles, it would take over 3 hours for them all to get here. Twenty rounds were to be fired by the anvil men, one for each automobile as it appeared over the brow of the hill. The citizens were massed on Jim Whetstone's store porch and the professor was to make his speech of welcome from a barrel set in the road.

About 10 o'clock the dull boom of the anvil announced that the first automobile was coming. Instantly everybody was on the qui vive—French for standing on your tiptoes with your mouth open. The thing sounded like a mowing machine as it came down hill and stopped suddenly in front of Professor Seraggs' barrel. The professor was so scared that he fell off the barrel and dropped his speech, but no one noticed him, as they were all looking at the automobile. It was occupied by four occupants, one lady and three men.

HUMAN EVENTS GO WRONG

The man in front, who had hold of a wheel that looked like a brake on a freight car, gave it a turn and then jumped out. The professor got back on the barrel and began his speech:

"Fellow citizens and members of the Chicago Automobile Club—When, in the course of human events—"

"Got any gasoline here?" said the stranger, whose name was afterward found to be Jack Fry.

"Got anything to eat?" asked the man who we found later was Dr. F. H. Davis.

"Got anything to—got any water?" said the little fellow, whose name was Ormsby.

"We've punctured a tire and must have gasoline," said Fry. Then the three men begun crawling around the machine, right in the dust, and didn't pay any more attention to the crowd.

"The pore fell'rs is crazy," said Bill Williams.

"No they hain't," replied Jim Whetstone. "They have broke a tire and want some gasoline to fix it with."

By this time Fry had the tire off the wheel, Ormsby was holding the monkey wrench and the doctor was squeezing some juice from a tube onto a piece of gum. The crowd had

gathered in and the professor and his speech were forgotten.

"The dad-gasted thing's holler. No wonder they broke it," said the judge. "That's the way they do everything in Chicago. I've hearn that them big pillers in the buildings up there is holler, and they hain't solid like they look in the pictures at all. We'd better git away before they sell us a gold brick. That tall, slim feller looks like a confidence man."

CHICAGO ELOQUENCE

Nobody paid any attention to the judge, but all watched the men fix the tire. After they had squirted it full of wind Fry turned around and grinned at the crowd and told them how it was.

"You will pardon our somewhat unkempt appearance, ladies and gentlemen," said Fry, lifting his cap politely, "but the facts are that owing to the atrocious condition of your thoroughfares we have not been able to come before you properly appareled as befits such an important occasion. Now, with your kind permission, we will take pleasure in being directed to the nearest hotel where we may dine at our leisure."

"That's one of them French galoots they calls a shofter, and he's talkin' the langwidge of his native country to us," said Hank White in an awe-struck whisper.

"Naw he hain't. He's cussin' the roads in polite talk, and says he wants some grub," responded Jim Whetstone. "That's the boardin' house over there, mister," he said to Fry, "and it's kept by a widdier woman who will give you a first-class handout. Hot biscuits and chicken three times a day ef you want it."

PRESIDENT'S POSTERITY AFTER APPLES

Just then another automobile came rushing down the hill in a cloud of dust. When it stopped two little chaps crawled out of the back part and made a dash for an apple tree near by.

"Hi, there, you boys, come away from that. You know what green apples done to you yesterday. Get back in this car while your paw makes a speech. Gentlemen," continued the speaker, turning to the assembled multitude, "in behalf of the Chicago Automobile Club, I greet you. My name is Gray—Charles W. Gray. Though somewhat unused to speaking in public, it affords me great pleasure to appear before you this bright and pleasant morning, to see your smiling faces and to know you have prepared this joyous welcome for us. We come with hearts full of love and hair full of sand, and assure you that you can trust us fully, as we have baggage with us. Now, kind friends, guide us to the nearest hostelry, and we will partake of your famed Kentucky hospitality."

"By gummy, that feller's a crackerjack. I'll bet he's the president of the club, because he makes such a swell speech. Hooray for the Chicago Automobile Club," yelled the judge.

CELEBRATION ABANDONED

Three rousing cheers were given, and then the visitors mingled with the throng and indulged in social conversation in a quiet, unaffected way that showed they were not a bit stuck up, even if they did live in the city. The president informed us sadly that the other machines had fallen by the wayside, as it were, and there would be no more along that day. The celebration festivities were abandoned and the professor's speech was handed to Mr. Gray, who promised to have it printed in the *Inter Ocean*, which is a thriving paper printed every

day and Sunday by him. After an excellent repast at the widder's, during which President Gray ate nine biscuits, the party hurried on its way, as the doctor said they must get to the caves in time to celebrate our glorious independence day.

We were sorry to see them go, because they were nice folks and they treated us white. We hope they will return to our midst some time in the future.—JACKSON B. FORBES.

TWO CARS REACH DESTINATION

The trip to Mammoth Cave, planned by the Chicago Automobile Club, was completed Sunday, July 5, by two machines. Both of these cars were new and had never been used before this trip. President C. W. Gray drove a Peerless and was accompanied by his wife and two children and Fred Gage. The other car was a Winton, occupied by Mr. and Mrs. A. Scott Ormsby, Dr. Frank H. Davis and Jack Fry.

There were only four cars that left Chicago with the intention of making the entire trip. W. R. Smith and party abandoned the trip at Crawfordsville, Ind., deciding to visit friends there instead of going on to the caves. J. B. Burdette and party, with a Darracq, left their car at Bardstown, Ky., as they feared the roads would be too bad for the machine. The finished the journey by train. The return trip to Chicago was begun Tuesday.

MOOERS BUYS A DONKEY

Even if the American team did not get the Gordon Bennett cup, there is some consolation in the fact that the contestants had other blessings conferred upon them. Louis Mooers, for instance, is now so infatuated with donkey riding that this method of traveling may share with motor driving in his affections. In a private letter from W. J. Morgan to a *MOTOR AGE* representative is the following report of Mooers' donkey experience:

"The second day we were here Mooers became violently attached to a fleet-footed donkey which he saw in the village, and the next thing we knew he was galloping up the lane on it, having negotiated the purchase of the Irish canary with one of the villagers. The next morning a loud braying outside the house arrested our attention, and on investigating the cause, we found a whole string of donkeys outside that other villagers had brought up for his inspection, but Louis assured them he had all the donkey work he cared to do and was not a dealer in donkeys, so the party turned around and solemnly headed for the village with their unsold canaries. Our donkey is a fast one and we have named him Pat Hussey, his ears puts us in mind of Pat's mustache, but in order to get the very best speed out of him we start Mooers ahead and then drive a very noisy touring car behind him, and it is a sight for the gods to see that donkey go with Louis hanging on to his ears."

FACTORY FOR SALE

The factory buildings of the Buffalo Spring & Gear Co., at Buffalo, N. Y., will be sold at public sale by the United States Court on July 15. The factory covers 56,000 feet of floor space and is one of the most modern and best equipped carriage manufactories in the United States. It would be an excellent location for an automobile factory. Allan N. MacNabb is the trustee in bankruptcy of the company.

MOTORING INTERESTS IN MEXICO

Despite Poor Roads Automobiling Has Grown Rapidly in the Southern Republic—Cars Are Owned Mainly in Mexico City

Mexico City, Mexico, July 2—Three years ago the automobile was unknown in Mexico. Today there are 125 in the city of Mexico, and the Mexicans are rapidly adopting them. The Mexicans who have been to Paris contracted the fever there and many French machines were brought back as a result. The Panhard and Darracq lead the list in point of numbers. Of American machines the Columbia, Oldsmobile, White and Locomobile are most used. On account of the poor condition of the roads the demand is principally for light machines, and until the roads are improved there will not be much demand for heavy touring cars.

CROSS COUNTRY ROADS PLANNED

A new road is now being built from the heart of the city to San Angel, and another long road running in an opposite direction from the city will be connected with it, so that fairly long runs can be made. Such a thing as traveling from one town to another is now impossible, as the country roads are unfit for automobiles.

Monterey is the second city in Mexico in the number of automobiles, and it has only four. Guadalajara, the second largest city in the republic, with a population of 100,000, has only two machines.

PROSPEROUS CLUB

An automobile club has recently been formed in the city of Mexico, and the club will work vigorously to promote good roads in all parts of the country. President Diaz and the members of his cabinet are honorary directors of the club, and Senor Jose Ives Limantour, minister of finance, is the honorable president. Senor Pablo Escandon is the active president and Charles S. Seeger is secretary. There are fifty charter members of the club. Minister Limantour has offered the club a tract of land in Chapultepec park and upon this will be built a chalet which will be conducted practically as a country clubhouse.

ONE LARGE GARAGE

The Mexican Electric Vehicle Co. practically introduced the automobile in Mexico in 1900. The company opened a large station in the

city where batteries could be charged and machines cared for. It also established an automobile service on San Francisco street and operated a line of victorias to all the railway stations, as well as a number of wagonettes, on Sunday especially, to the Castle of Chapultepec. This service was discontinued when the new sewerage system was started, but will doubtless be resumed now that the streets are again in good condition.

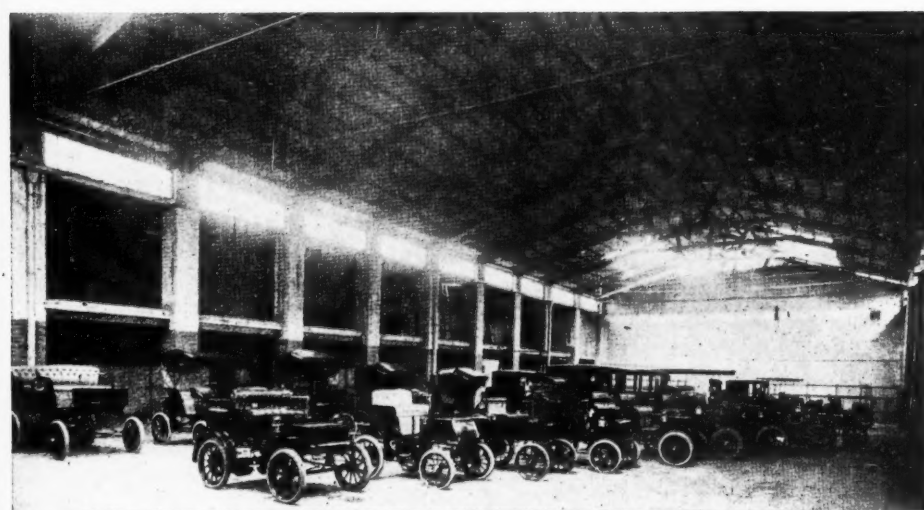
FORD COMPANY READY TO SELL

The Ford Motor Co., of Detroit, Mich., has for several months been quietly at work on the production of 650 8-horsepower, double-cylinder light gasoline cars designed by and built under the supervision of Henry Ford, well known as builder of special racing cars, and is now almost ready to introduce the Ford car and commence deliveries. In fact, the first shipments are scheduled for July 15. In adopting this peculiar policy of erecting a large number of cars before seeking orders the company has in view the creation of favor among agents who are growing accustomed to being disappointed in deliveries of cars ordered early in the spring.

The Ford company is well financed and has good manufacturing facilities, the machine work and parts manufacture being done in the factory of Dodge Bros., who are interested in the company. The officers are as follows: John S. Gray, president; Henry Ford, vice-president and general manager; James Couzins, secretary, and Alexander Y. Malcomson, treasurer.

The management of the sales department has been placed with Charles A. Wardle, who for the past 3 years has been connected with the sales department of the Locomobile Co. of America. Mr. Wardle's experience in handling agencies has been extensive in other lines also, while during the last 2 years his efforts in behalf of the Locomobile in the south and west have given him a wide knowledge of the business of automobile selling and the establishment of agencies. It is the purpose in his connection with the Ford company to endeavor to sell the entire output through agents. Mr. Wardle's first essays will be in the large cities.

The American Motor Coach Co. has discontinued its omnibus service to the north side of Chicago because of the deplorable condition of Rush street. The coaches now run from Marshall Field's store to the Union depot.



MOTOR AGE

Garage of the Mexican Electric Vehicle Co.

N. A. A. M. SETTLES ON PITTSBURG

Smoky City Will Be the Destination of the Endurance Run in October—Co-operation of the A. A. A. Is Requested

New York, July 2—Endurance race matters occupied most of the attention of the N. A. A. M. executive committee at its prolonged session yesterday. President Budlong, H. Ward Leonard, Charles Clifton, W. D. Gash, Colonel K. C. Pardee, Paul H. Deming, I. H. Page, S. T. Davis, Jr., and Charles E. Duryea were in attendance.

A. A. A. ASKED TO CO-OPERATE

The technical committee had been in session all the previous day. Dr. Julian A. Chase, president, and A. R. Pardington, a director of the American Automobile Association, were present on invitation, as it is the idea of the N. A. A. M. to ask the clubs of their organization in the route of the run to furnish the officials to do the judging and timing and pass upon the awards.

The details of the run as finally decided upon by the technical committee and the A. A. A. officials were approved by the executive committee. They will not be given out as a whole until the A. A. A. has agreed upon co-operation and made such suggestions as it sees desirable and the N. A. A. M. executive committee has finally approved of the plan as possibly amended.

PITTSBURG THE DESTINATION

It is known, however, that the destination of the run will be Pittsburg, as at first intended, and that 5 days will be consumed in making the run of 560 miles exclusive of a Sunday of rest between. The start will be on a Friday, in October. The first day's run will be to Philadelphia. Saturday the tourists will reach Washington, where they will remain over Sunday. On Monday the caravan will proceed to Hagerstown by way of Baltimore. A point half way to Pittsburg will be the stopping place Tuesday night. The tourists will reach the Smoky City on Wednesday. Here there will be fuel consumption tests, a hill-climbing match, speed races, a gymkana and other contests.

Secretary Unwin will make an inspection trip over the course next week.

NO BUSINESS CAR TEST

The executive committee came to the conclusion that trade conditions were not such as to demand a commercial vehicle contest this year.

The N. A. A. M. will make a test case of one of the recent arrests of dealers and dealers' mechanics under the Bailey law for driving demonstration automobiles without license tags.

FEDERAL PLANS DISCUSSED

Cleveland, O., July 6—Tuesday, Wednesday and Thursday of last week were busy days at the offices of the Federal Mfg. Co., in Cleveland, for those days were given up to the annual convention of the sales managers, superintendents, and road men of the various factories operated by the Pope interests, including both the Federal Mfg. Co. and the Pope Motor Car Co., as the erstwhile International Motor Car Co. is now known.

A banquet was held Tuesday evening at 8 o'clock in the Hollenden hotel banquet room, and proved a good means of getting the boys

together. Wednesday was given up to a discussion of business policies for the next year and for fully explaining the new lines which are to be put out.

Col. George Pope was here, explained the plans of the Pope Motor Car Co. for next year and talked of cars of new designs which will be made. The enlargement of the Diamond chain factory was also spoken of, this increase in capacity of 25 per cent having been made necessary to keep pace with the demand for automobile chains. The work which the Federal company's Milwaukee plant is to turn out in the future, pressed steel frames for motor cars, and something about the special machinery which has been designed and installed to take care of this branch of the business, was also explained.

On Thursday the entire party went to Elyria, to inspect the new sheet steel mill, which is now in operation, and which is said to be one of the most complete mills in the United States. The convention ended with a meeting on Thursday evening.

SHELBY COMPANY GOES UNDER

Ohio Concern Unable To Meet Obligations a Stockholder Asks for a Receiver—Liabilities \$60,000

The Shelby Motor Car Co., of Shelby, O., went into the hands of a receiver last week, the liabilities being placed at \$60,000 and the assets at about \$50,000. John C. Fish was appointed receiver by Judge Dirlam. The petition for the appointment was signed by a majority of the stockholders.

The company has an authorized capital stock of \$150,000, of which \$139,800 has been issued. The plaintiff, in his petition, says the company has during the season met with great losses in the management of its business; that its paper and bills have matured and are maturing and that it has no funds to meet these obligations.

G. M. Skiles, a director of the company, said that the receiver would continue to operate the works and use up all material on hand at this time. After he has used up the materials he will endeavor to make a compromise with the creditors, and if he is able to do this he will effect a reorganization of the company. If this compromise is not effected the works will be sold and the proceeds turned over to the court to settle with the creditors.

LOCOMOBILE ACTIVITY

The Locomobile Co. of America, of Bridgeport, Conn., is running its plant night and day and is now in excellent shape to deliver its gasoline Locomobiles as well as its steam cars. Several of the 16-horsepower gasoline cars have already been delivered. The factory is located on Long Island sound and the company has its own landing wharf. Parties from yachts cruising on the sound are always welcome to land and visit the factory, while automobilists touring along the sound from New York to Boston will also find a welcome. Recent callers from their yachts are Samuel Brock, of Philadelphia; Franklin Haynes, of Yonkers, N. Y.; E. D. Thayer, of Newton, Mass., and Colonel Max Fleischmann, of Cincinnati, O. Col. Fleischmann has ordered a blue king of the Belgians Locomobile gasoline touring car, which he will take with him on his yacht while cruising this summer.

The Detroit Automobile Club is trying to persuade the city government to put uniforms on the bicycle police.

DISCUSS MOTOR CAR CONSTRUCTION

At the Automobile Congress in Paris, Automobile Technical Subjects of Great Range Are Treated by Experts

The third international automobile congress, brief mention of which was made in a previous issue of MOTOR AGE, was held in the hall of the Automobile Club of France June 15 to 18.

MECHANICAL VALVES

The discussion at the first sitting was on the subject of motors. M. Lumet explained that little is known of what actually takes place at the moment of combustion. Mechanically operated inlet valves were criticised by M. Gaillardet as follows:

"At the moment of aspiration, the gases taken into the cylinder followed the direction of the piston and became heated in contact with the cylinder walls, and in expanding filled the chamber before the piston reached its full stroke.

"It is evident that the amount of expansion depends on the heat of the cylinder walls and the speed and the suction of the piston, and it is essential that the moment for closing the inlet valve be determined by the gas itself, which is not what happens when the valve is mechanically operated.

"The timing of the closing of the exhaust valve, which is always mechanically closed, need not be so exact so long as it does not close before the end of the upward stroke in order that the cylinder may be completely exhausted."

MOTOR COOLING

Several papers were read on the cooling of the motor, one important point brought out being that a sufficient quantity of water must be carried and sufficient radiating surface be provided so as to prevent boiling of the water and its consequent loss as steam. This loss is harmful because each time fresh water is introduced the salts it contains are deposited in the water jacket and prevent the heat from being evenly conducted to the cooling water.

The honeycomb radiator was criticised on account of the innumerable soldered joints which are so difficult to repair.

The Hospitalier indicator, which registers the continuity of explosions while testing for brake horsepower, was described. It consists of a membrane which, being acted upon by the pressure of the explosion in the cylinder, records the explosions either on a photographic plate or a magnifying mirror. The Mathot recording apparatus was also described.

NEW MOTORS

M. Turgan's paper on generators in steam cars showed that tubes of the Field type are gradually being discarded. This consists of a tube closed at one end, into which a tube of smaller diameter is led, and the feed water finds its way to the larger tube through this inner one.

M. Gerard-Lavergne's paper on new motors mentioned the Diesel and the acetylene. This last was admitted not to be practical as yet, but it might soon be so, and would have the advantage of consuming fuel that can be produced in France.

CHASSIS CONSTRUCTION

The second day was devoted to electro-motion. M. Lavezzari's paper dealt with the improvements in batteries since 1900. The most interesting part of the discussion related

to the apparatus by which an alternating current is transformed into a continuous current.

In the afternoon the transmission, the chassis, wheels and bodies were discussed. M. Arbel demonstrated the defects of wooden framework for cars and said these were necessarily pierced by screws and so weakened. Tubular frames have the advantage of lightness and cheapness, while pressed sheet steel frames are best when high powers are used.

M. Pozzy advised silicium and tungsten steels for springs, and the best positions for the spring shackles to be inside the frame.

The third day Professor Hele-Shaw read a paper on tractive effort, and international and economic questions were discussed. The question of tarring the roads was discussed and it was suggested that the road from Paris to Versailles be treated in this manner.

The standardization of parts for motor cars was urged by M. Max Richard, who suggested the international metric standard for threads; the standardization of decimal gauges; of chain pitches for automobiles, of lamp brackets, of fittings for pneumatic tires, of dimensions of automobile frames, of batteries and of the

thread of sparking plugs. The discussion on this topic was lively and interesting, it being evident that the manufacturers present were keenly awake to the ultimate necessity of establishing the industry upon a more economical basis than that of its condition now. The advantages of standardized parts in effecting repairs was also brought out.

The last speech was by M. Bourlet who advocated an international language called Esperanto for use of motorists. Prior to adjournment it was decided to hold the congress next year in Milan.

QUAKER

One of the largest chain of automobile establishments in the country is that of the Banker Bros. Co. This company is the eastern distributor of nine automobile manufacturers. The Pittsburg house is managed by Arthur L. Banker, president of the company, the Philadelphia branch is in charge of George A. Banker, treasurer of the company, and the New York branch is under the control of Charles G. Wridgway.

The station at Philadelphia is a model garage. The building is three stories, covering a plot 77 by 130 feet. The ground



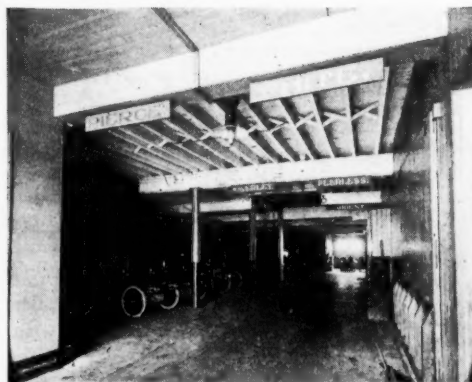
MOTOR AGE

The Banker Establishment at Philadelphia

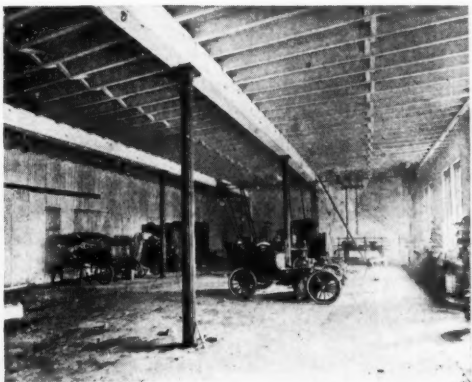
GARAGE

waiting and toilet rooms, with separate street entrances, and lockers for owners. The ladies' waiting room, salesroom and offices are all furnished in natural wood and hung with photographs and original water colors of automobile subjects, while potted plants relieve the usual monotony of a mechanical show room.

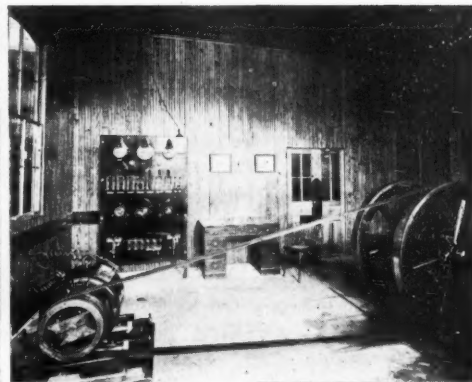
The second floor has a repair shop and stock room in front, while back of this is a large storage floor for electric vehicles. Fifteen charging rheostats together with a battery and chemical laboratory are in constant use in this



Storage Room on First Floor



The Repair Shop



The Engine Room

floor has the office, salesroom, storage room, wash stand, dynamo room, chauffeurs' room, engine room and a set of scales for weighing machines. There are three pits in the rear for examining machines. The north front half of the building has the gentlemen's waiting and wash rooms, ladies'



Ladies' Waiting Room



The Private Office

department of the establishment.

The third floor has space for the storage of 150 cars, and is reached by an elevator capable of accommodating any touring car up to a weight of 4,000 pounds. About thirty-five persons are employed in the various departments of this building.

THE READERS' CLEARING HOUSE

STRAIGHTENING CRANK SHAFT

Chicago—Editor MOTOR AGE—By the breaking of a connecting rod the crank shaft of my four-cylinder vertical automobile motor has been badly sprung, also the lower half of the crank chamber, which is of aluminum, has been badly cracked from the same cause. Can the crank shaft be straightened so as to make it usable or will a new crank shaft be necessary? What is the best method of fixing the crack in the crank chamber? Can it be brazed?—G. F. H.

The crank shaft might be straightened by an expert mechanic, but the journal and crank pin would have to be re-turned and new bearings fitted to all of them. This would make almost as expensive a proposition as a new crank shaft, which would be the best job of the two. The crank shaft would also be reduced in strength by re-turning the journals and crank pins. The best method of repairing the crack in the crank chamber is to put a patch of soft sheet iron about 3-64 of an inch thick on the crack and inside the crank chamber if possible. Before riveting the patch in place, a strip of coarse canvas thickly covered with white or red lead should be placed under the sheet iron patch. The patch should be temporarily bolted in place while riveting and 1/4-inch soft steel rivets used. The rivet holes in the crank chamber, if the patch is put on the inside, should be countersunk on the outside of the crank chamber and hot rivets used. It is impossible to braze aluminum.

POOR SECONDARY INSULATION

Decatur, Ill.—Editor MOTOR AGE—The secondary wires of my gasoline automobile motor are of common weather proof wire, and having become saturated with oil from the motor, seem to cause the motor to work poorly, as it mis-fires badly. How can this defect be remedied? I have tried covering the wires with sticky tape, but it does not seem to make much improvement.—W. F.

The secondary wiring should be replaced throughout with new wire and every portion covered with pure rubber tubing, which may be obtained at any electrical supply house. On no account use common gas hose in place of the pure rubber tubing. It is just a little better than nothing.

TROUBLE WITH CARBURETER

St. Louis, Mo.—Editor MOTOR AGE—I have trouble in starting the motor of my gasoline car. It is equipped with a float-feed carbureter with a fixed or permanent nozzle in the jet chamber which cannot in any way be adjusted. Sometimes I can get the motor to start by tickling the float, so as to allow an excess of gasoline in the mixing chamber, but most generally I have to prime the inlet valves of the motor with gasoline from an oil can, before I can get the motor started. Can you suggest any remedy for this trouble or tell what is the probable cause of it?—C. H.

The trouble mentioned is one which is common to many makes of float feed carbureters,

but is very easily remedied. The nozzle in the jet chamber is either too long or the float in the gasoline chamber too light. If the nozzle be of sufficient length to stand being cut down, this is the simplest remedy; if not, solder a small piece of brass or copper to the float. A little experimenting will be necessary to get the desired results.

CONVERTING INDUCTION COIL

Springfield, O.—Editor MOTOR AGE—Can a plain jump spark coil be converted into a vibrator coil and will a vibrator coil give better firing results than a plain jump spark coil?—E. D. T.

A plain jump spark cannot be converted into a vibrator coil except at considerable expense, but there are small devices known as independent vibrators which may be purchased at any reliable automobile supply house, which when placed in the circuit with the plain coil, will give practically the same result as if a vibrator coil were used. A vibrator coil is far more reliable and will give better firing results than a plain jump spark coil.

NOISE AT AIR INLET

Evansville, Ind.—Editor MOTOR AGE—I am greatly annoyed by the noise which the air inlet to the carbureter of my motor makes. If I close the air inlet, it makes the mixture too rich and slows down the motor, besides giving off a disagreeable odor from the exhaust outlet of the muffler. Is there any way of overcoming this trouble?—D. G.

Make a sleeve of coarse canvas, or get a circular lamp wick, such as is used in the Argand type of oil lamps, about 9 inches long, and sew one end up and fasten the other end over the end of the air inlet to the carbureter. This will not only deaden the noise but prevent dust or dirt from getting in the carbureter.

NON-STARTING MOTOR

West Liberty, Ia.—Editor MOTOR AGE—The motor of my 4 1/2-horsepower gasoline runabout has gone back on me and refuses to start. I have tried everything I can think of to remedy the trouble, but without result. The trouble does not seem to be with the spark plug, coil, or batteries, as they work all right. If I almost close the air inlet, then turn the motor six or eight times, and then throw in the battery switch, sometimes the motor will start, but most of the time it will not. I usually have to turn the starting crank for about 10 minutes before I can get an explosion out of the motor. After the motor is started it works all right, but I have the same trouble in starting it again, even when the motor is hot. The carbureter is of the float feed type and connected close to the motor. The reason that I think the trouble lies in the mixture is from the fact that a number of times I have almost closed the

air inlet, then turned the motor over three or four times, turned on the battery switch and let the vibrator operate for several seconds while turning the motor slowly. No explosion followed these tests.—V. R. L.

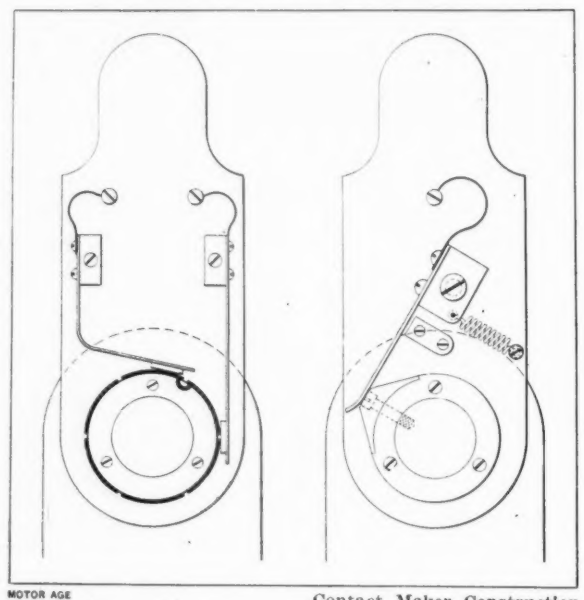
Either the gasoline pipe is stopped or else there must be leaks in the inlet pipe between the carbureter and the motor. Remove the carbureter and inlet pipe and inject a small quantity of gasoline directly into the inlet valve chamber. Throw in the battery switch and then start the motor, if an explosion follows, this will prove that the trouble lies in the inlet pipe leaking or the supply of gasoline not being sufficient.

TROUBLESOME CONTACT MAKER

Independence, Ore.—Editor MOTOR AGE—I send you a drawing of a contact maker which I made and installed on a two-cycle gasoline motor. As I had some difficulty with it I wish information on the subject. The commutator or contact maker has six segments, two of which are connected as shown. The contact is kept closed a little over one-seventh of the stroke. The cylinder of the motor is of 6 1/2-inch bore and 7-inch stroke. The motor gives the best results at 375 revolutions per minute. When running light it has a speed of 425 revolutions per minute. The greatest trouble with the motor lies in the fact that it frequently mis-fires and also back-fires into the crank chamber. The induction coil is of the vibrator type with four terminals, one secondary terminal being grounded on the motor. With the old system of make and break primary spark the motor seldom mis-fired, and never back-fired into the crank chamber.

Previously to making the contact maker shown in the sketch, I made a commutator like the one described in MOTOR AGE of June 18. The segment was of copper and the insulation of hard rubber. I put on a carbon brush and it would collect particles of rubber and so insulate the brush that it would not allow the current to pass to the commutator. It also formed a coating of copper particles around the rubber insulation, which short circuited the copper segment.—C. H.

For a two-cycle motor one of the segments shown in the left hand view in the illustration is more than sufficient for a contact and would give a time or period of contact extending through an angle of 60 degrees. Copper segments or contact makers are not very satisfactory in use. The segment should be of



brass or phosphor-bronze and the contact maker of steel. The back-firing is most probably caused from the commutator and brush being too long in contact, as shown; if the charge were fired at about 30 degrees before the end of the compression stroke, the spark plug would be in action over half way down the explosion stroke of the motor. The commutator shown in *MOTOR AGE* of June 18 was to be made of phosphor bronze and the contact maker of steel. A carbon brush and commutator with a copper segment is not a practical construction for the purpose required.

The right-hand view in the illustration shows a cam and contact maker which will give very satisfactory results if properly made. Only one contact maker is required, and a brass or phosphor bronze nose on the cam, attached to the same by means of a phillister head screw, counterbored into the cam nose and screwed into the shaft. Only one primary connection from the coil or battery is necessary, the other wire being ground along with the secondary wire to the motor. The contact maker should be of steel and attached to a fiber block; a small block of fibre should be provided for a stop as shown. The cam should be made of fibre and attached with three screws, the same as the existing segment commutator.

LARGE AIR-COOLED MOTOR

Columbus, Ohio.—Editor *MOTOR AGE*—Encouraged by the example of others, I come to the Readers' Clearing House for a little information. I understand that air-cooled gasoline motors with a bore of 5-inch and stroke of 7-inch and developing 8-horsepower are in use and are said to work quietly and with good results at fairly high speeds, without any injurious effects due to overheating. To what peculiarity of construction are these results due?—J. A. P.

The motor in question must be air-cooled by a patented system of pins screwed into the cylinder and valve and combustion chambers. To increase their radiating properties these pins are threaded their entire length.

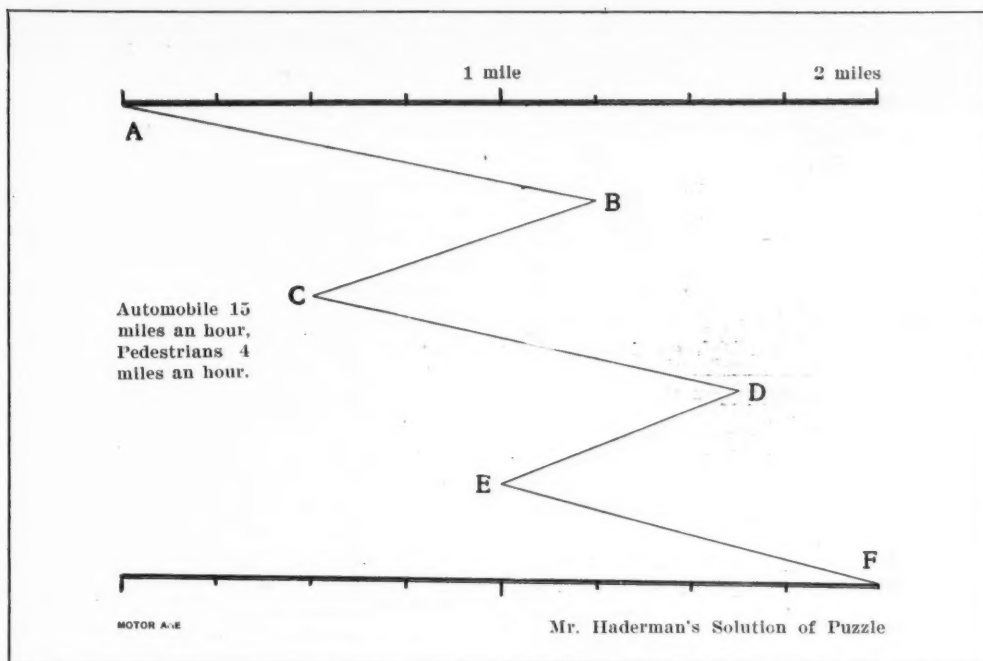
MOTOR VIBRATION

St. Paul, Minn.—Editor *MOTOR AGE*—Which will have the least vibration, a vertical two-cylinder motor with the crank-pins set at an angle of 180 degrees, or a similar motor with both connecting rods on one common crank-pin?—H. W.

The motor with the crank pins set at an angle of 180 degrees is mechanically balanced, but will have two successive explosions and then two idle strokes of the pistons. The motor with both connecting rods on one common crank pin is not mechanically balanced and will vibrate considerably when running light, but will give better road results as the explosions or impulses are more uniformly divided, having alternate explosions and idle strokes.

ANOTHER PUZZLE SOLUTION

Pittsburg, Pa.—Editor *MOTOR AGE*—I submit the following solution of the "British aristocracy" puzzle: To make the best time both pedestrians and automobile should be constantly going. Like Mr. Prowse in his solution, I will drop extra seconds, allowing them for embarking, etc. The party leaves A, in the diagram, four riding and four walking. The car reaches B in 5 minutes. It leaves three persons to continue on foot and returning, meets the party on foot at C, 8 minutes



from the time of the start. Three persons are taken on and the car proceeds to D, arriving there at 12½ minutes after the start. Leaving three persons at D the car returns and meets the remaining pedestrian at E, 15 minutes from the time of start. The car finishes the relay at F in 19 minutes, to reach which in time to meet the automobile the parties on foot have had ample time.—F. W. HADERMAN.

BALANCING FOUR-CYLINDER MOTOR

Los Angeles, Cal.—Editor *MOTOR AGE*—What power should a four-cylinder motor with cylinders of 4-inch bore and 6-inch stroke develop at 750 revolutions per minute and how should the crank pins be arranged to make the motor both mechanically and explosively balanced?—N. W.

A four-cylinder motor of 4-inch bore and 6-inch stroke should develop about 18 horsepower at 750 revolutions per minute. To obtain a mechanical and explosive balance, the crank pins may be arranged either in pairs at an angle of 180 degrees, or a center pair and two single crank pins, one on each side of the center pair and at an angle of 180 degrees with the center pair may be used.

DOUBLE FUEL TANK

Greenwich, Conn.—Editor *MOTOR AGE*—Will you inform me how to add another 5-gallon tank to my steam machine in addition to the tank already there, so that the oil will flow from the new tank as soon as the old one is empty? The new tank will be located in front of the old one and the usual air pressure will be used. I never saw two tanks connected in this way that would work properly.—C. H. M.

MOTOR AGE is not aware of any manner in which two tanks can be connected and work in the manner described. The only practical method known is to connect the top of the old tank to the bottom of the new tank by a suitable pipe connection, and apply the air pressure directly to the top of the new tank.

HORIZONTAL VERSUS VERTICAL MOTORS

Cleveland, O.—Editor *MOTOR AGE*—I am thinking of building a two-cylinder gasoline motor of 3½-inch bore and 4½-inch stroke. Which type is the better, a horizontal op-

posed cylinder motor or a vertical one, and what form of lubrication is necessary? What horsepower should such a motor develop at 900 revolutions per minute?—T. H.

The type of motor is largely a matter of preference and will depend a great deal upon the design of the car. A vertical two-cylinder motor will occupy less space than a horizontal opposed cylinder motor, and will only need splash or crank chamber lubrication for the pistons, which may be supplied by a pressure sight feed lubricator located upon the dash or any other convenient place. The lubricator should be set to feed about three drops of oil per minute to the pipe leading to the crank-chamber. The used oil should be withdrawn from the crank chamber by means of a pet cock underneath it, about once in 3 days. A motor of 3½-inch bore and 4½-inch stroke should develop at least 7½ horsepower at 900 revolutions per minute.

DETERIORATED CONTACT BLADE

Akron, O.—Editor *MOTOR AGE*—I have a 6-horsepower gasoline motor which is fitted with a commutator with a wipe contact consisting of a spring brass blade. The fiber cam on the secondary shaft has a small brass segment fastened to the shaft by a small screw. The motor has given trouble lately, not only by mis-firing, but by firing too late. Can you suggest any reason for these troubles?—B. F. H.

The poor running of the motor is due to the fact that the spring brass contact blade has lost its temper or springy qualities and also worn away, thus causing both the mis-firing and the late firing. A new contact blade of spring steel should be used in place of the brass one. The late firing can be easily remedied by changing the position of the ignition casing.

MIXING VALVE ON FRENCH MOTOR

Philadelphia, Pa.—Editor *MOTOR AGE*—The carbureter of my automobile motor having been badly damaged by back-firing through one of the inlet valves of the motor, caused by a defective spring, I had a mixing valve temporarily attached in place of the carbureter, as the machine is of French make and it would take 5 or 6 weeks to get a new carbureter. The mixing valve does not seem to work sat-

isfactory when the motor runs at its proper speed, which is about 1,200 revolutions per minute. At a much slower speed the mixing valve works nicely but the motor of course does not have anything like its rated power. Can you give me any reason for this?—V. G.

In the first place mixing valves are not very well suited to motors with a wide range or variation of speed and secondly are not suited for a speed of over 750 revolutions per minute or a piston velocity of over 600 feet per minute. A float feed type of carburetor should always be used with a high speed motor.

VALVE DIMENSIONS

Topeka, Kas.—Editor MOTOR AGE—What should be the diameter for the inlet and exhaust valves of a motor of 6-inch bore and 7-inch stroke, with a speed of 700 revolutions per minute?—S. R.

For a motor of 6-inch bore and 7-inch stroke, with a speed of 700 revolutions per minute, the inlet and exhaust valves should have a clear opening of 2 inches in diameter.

NOISY TRANSMISSION GEAR

San Antonio, Tex.—Editor MOTOR AGE—I have a gasoline runabout with a friction driven speed transmission. The fly wheel of

the motor has a copper plate or disk set in its outer face, which transmits the motor power to the rear axle by means of a cross shaft carrying a sliding cast iron friction roller. This form of transmission is very noisy and the copper disk soon becomes so badly worn that it has to be renewed about once a month, when the machine is in daily use. Is there any way by which this trouble may be overcome? In other respects the machine is all right and runs nicely. B. W.

Have the copper plate or disk replaced by a wrought iron or steel one, and the cast iron friction roller by a built up friction roller made of what is known as "friction paper," which is extensively used in millwright work. This paper friction roller should have a cast iron hub, with one fixed and one loose flange, between which the friction paper is bolted.

INLET PIPE MEASUREMENT

Buffalo, N. Y.—Editor MOTOR AGE—Will you give me the usual inside measurements of the inlet pipes on French automobiles of the multi-cylinder type, particularly with regard to motors of from 10 to 20-horsepower?—E. L. T.

As there is such a wide variation in the

bore and stroke and speed of these motors, it would be almost impossible to give the required dimensions, unless some particular car is specified.

STARTING ON SLOW SPEED

Hammond, Ind.—Editor MOTOR AGE—I recently purchased a second-hand gasoline automobile of 8 horsepower. It is a standard make and works very satisfactory in every respect, with one exception. I cannot start it on the second, or high speed, without first getting it under way by means of the slow speed, without the motor stopping.—F. B.

According to one of the well known laws of physics, it requires a certain amount of power to cause a body of known weight to attain a certain velocity in a given time. This being the case, it would probably require double the present motive power of the vehicle, or 16 horsepower to cause the car to start on the high gear if it would start at all, which is doubtful.

If the maximum speed of the car were 20 miles per hour the slow speed should be used until a speed of at least 10 miles per hour is attained, when the fast speed may be safely thrown in without the motor stopping.

POINTERS ON AUTOMOBILE OPERATION

CHARGING FROM A LIGHT CIRCUIT

As the voltage of a light circuit is usually 110 volts, it is of too high a tension for charging a storage battery directly. It is therefore necessary to introduce a resistance into the circuit to keep the charging current down to the correct amount, which should preferably not exceed two amperes.

For ordinary use a single 32-candlepower lamp connected in series with the battery is all that is necessary and will charge a 10-ampere-hour battery in 10 hours. If quicker charging is desired two 32-candlepower lamps should be connected in parallel with each other and in series with the battery, which may then be charged in 5 hours.

Care should be taken to connect the positive pole of the battery to the positive pole of the light-circuit. To ascertain this correctly, place the ends of the light circuit wires in a glass of water slightly acidulated with a few drops of malt vinegar or sulphuric acid. When the current is turned on bubbles of gas will appear at the ends of one of the wires. This is the negative wire. The other wire will consequently be the positive one, and should be connected to the positive pole of the battery.

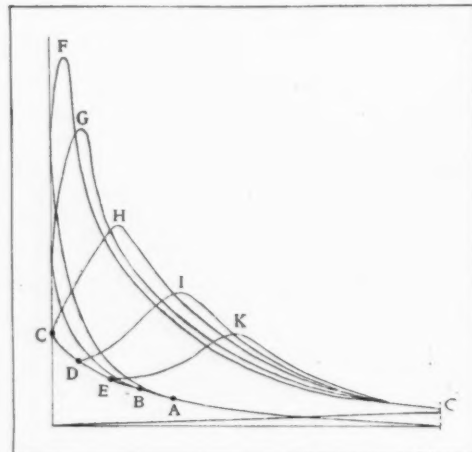
TIPS ON MOTOR STARTING

The first and really the most important point about starting the motor of a gasoline automobile is to ascertain if the cock underneath the gasoline tank is open. The neglect of this little precaution has caused the display of more bad temper, profanity and anxiety of mind than any other minor detail, except that of forgetting to switch on the electricity. It is to be presumed that the tank has been previously filled with gasoline.

Next tickle the carburetor to see if the gasoline flows from the tank properly, then give the motor one or two turns by means of the starting crank and with the compression release cocks open. If a mechanical feed or splash lubrication is used, there will be no

necessity to look after the oil, but if a gravity oil feed is used, always turn on the oil before starting the motor; it is extremely liable to be forgotten afterward. Then close the compression release cocks, switch on the electricity and one or two sharp turns should generally suffice to start the motor.

If the motor fails to start, first examine the inlet valve, if of the suction type, to see that it is not stuck to its seat, then the cam or commutator and contact maker of the ignition mechanism, to see that it is clean and free from grease or dirt. Last of all, if these points are all right, test the batteries, and be sure to carry a pocket ammeter for this purpose. In seven cases out of ten, failure of the motor to start is due to weak or exhausted batteries. Another point of importance in connection with the starting of the motor is to ascertain that the ignition mechanism is retarded before cranking the motor. Many a sprained wrist and not a few cases of broken heads or arms have been caused by the neglect of this simple precaution. It is a good plan to have the ignition control spring actuated so that in its normal position it is always retarded. Many cars are equipped with some device of this kind to prevent mishaps.



MOTOR AGE

Ignition Diagrams

RETARDED AND ADVANCED IGNITION

The advancing of the point or period of ignition in a gasoline motor, although not economical, is still desirable in automobile motor use, as it affords a means of obtaining a wide range of motor speed in addition to the speed changing devices usually employed. The five diagrams shown in the illustration were taken by the new Manograph or recording device, the invention of M. Hospitalier, from a gasoline motor with a normal speed of 1,200 revolutions per minute. The letters A, B, C, D, E show the points of ignition and the letters F, G, H, I, K the points of maximum explosive force for each of the five diagrams.

In the first diagram the point of ignition A is about one-third of the stroke of the piston ahead of the dead center; in the second diagram the point of ignition B is about one-fourth of the stroke of the piston ahead of the dead center; in the third diagram, the point of ignition C is at the dead center; in the fourth diagram, the point of ignition D is about one-sixteenth of the stroke of the piston past the dead center, while in the fifth diagram, the point of ignition E is about one-seventh of the stroke of the piston past the dead center. It may be readily seen from the diagrams that the points of complete combustion and the highest explosive force corresponding to their respective points of ignition vary from a point slightly past the dead center to the middle of the outward stroke of the piston.

The letters AF, BG, CH, DI and EK, correspond to the point of ignition and the point of highest explosive force of each of the five diagrams respectively. The first two of the five diagrams, which show the point of ignition ahead of the dead center, demonstrate that the power of the motor is greatly increased by advancing the point of ignition, or in other words, igniting the charge before the piston has reached the end of its compression stroke.

IN THE FIELD OF AUTOMOBILE DEVELOPMENT

DOUBLE SPRING CHASSIS

The illustration shows a gasoline car chassis which is characterized by an unusual system of spring arrangement. The rectangular angle iron frame upon which the motor, transmission gear, etc., is mounted is supported by four three-quarter elliptic springs substantially of ordinary construction. The body, however, instead of being mounted directly upon the chassis frame and thereby subject to the vibration of the motor, is independently supported by four full elliptic springs. The body is readily detachable and may be removed by taking out six screws and detaching the steering wheel post. The car was built to order for a St. Louis automobilist by the Neustadt-Perry Co., 826 South Eighteenth street, St. Louis, Mo.

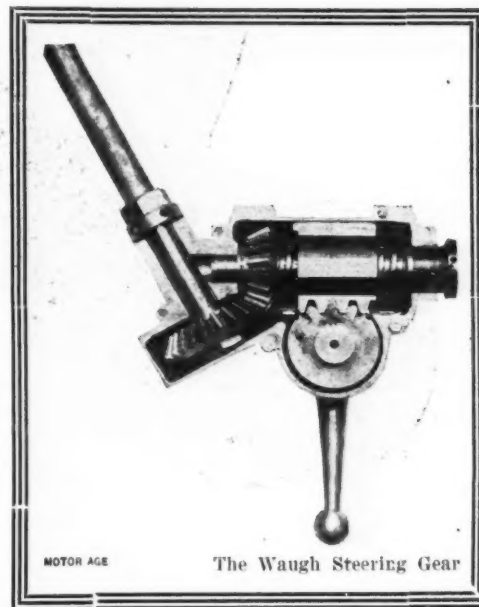
WATER CIRCULATING PUMPS

There is nothing more aggravating than a water circulating pump which does not circulate the water and properly cool the cylinders of the motor. Most of the troubles due to poor water circulation and overheated cylinders may be traced to one of two things, a badly designed or a leaky pump. When a pump is driven by a chain, belt or frictional contact, the driving pressure being on one side of the bearing causes the pump shaft or spindle to press against opposite sides of the bearing and the shorter the bearing the greater the wear will be at these two points, resulting in a short time in a permanent leak, which can only be cured by rebushing the spindle bearing. There are two kinds of pumps in use for water-circulating purposes—the centrifugal and the force or positive feed types. The first of these requires to be run at a high rate of speed, say from 1,800 to 2,500 revolutions per minute, to be effective, as at speeds of from 900 to 1,200 revolutions a centrifugal water pump will not circulate the water appreciably. The second or force feed type of pump requires only a speed of from 600 to 900 revolutions per minute to deliver an abundant supply of cooling water. With regard to driving a water pump, a frictional drive is said by many to be the poorest form of all, as the efficiency of this drive is only about 20 per cent of the power transmitted. A round belt

has about 40 per cent, a chain 60 per cent and a spur gear drive an efficiency of 85 per cent of the power transmitted. The belt drive is cheap, but objectionable on account of requiring to be frequently taken up, the chain drive is very noisy and requires provision for adjustment also, while the gear drive requires no adjustment and with a rawhide pinion and a bronze or steel gear will run almost noiselessly and with but very slight pressure on the pump shaft or spindle.

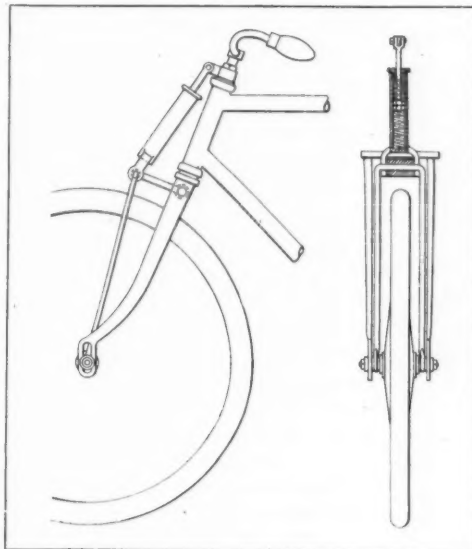
THE WAUGH STEERING DEVICE

Arthur L. Waugh, of Cambridge, Mass., is introducing a steering mechanism which combines the purposes of easy, sensitive action with back lock against transmission to the hand wheel of motion caused by irregularities in the road. The sectional illustration shows the arrangement of the assembled parts. Instead of the customary worm and gear the movement of the steering hand wheel is transmitted from its post or shaft through bevel pinions, a screw, a combined sliding nut and gear rack, and a spur gear segment. The



a small amount of light lubricant is necessary to entirely cover them. Heavy lubricant is not needed at all.

The hand wheel shaft is fitted with outside means for adjusting the bevel gears. It can, if desired, be made hollow to accommodate an internal shaft or shafts for controlling the throttle or spark lead. The relative sizes of the driving gear and its pinion are such that the eventual movement is accomplished with a rocking arm much shorter than is usually employed. This affords a light, stiff construction with less chance of lost movement. The thrust bearing for the screw is adjustable from the outside to eliminate end play. The two parts of the enclosing case are clamped together tightly by five screws.

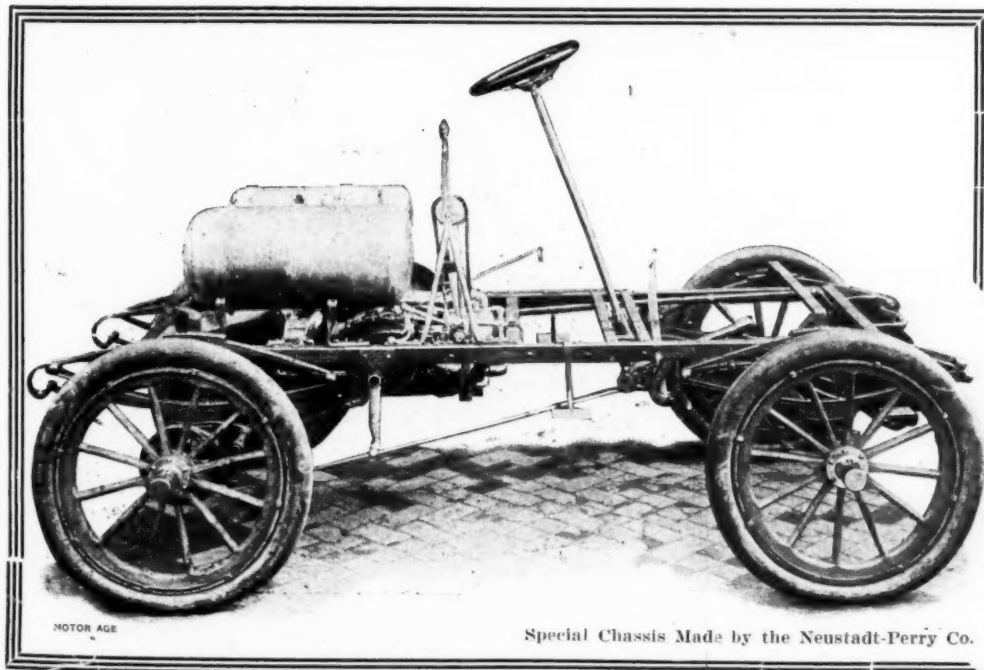


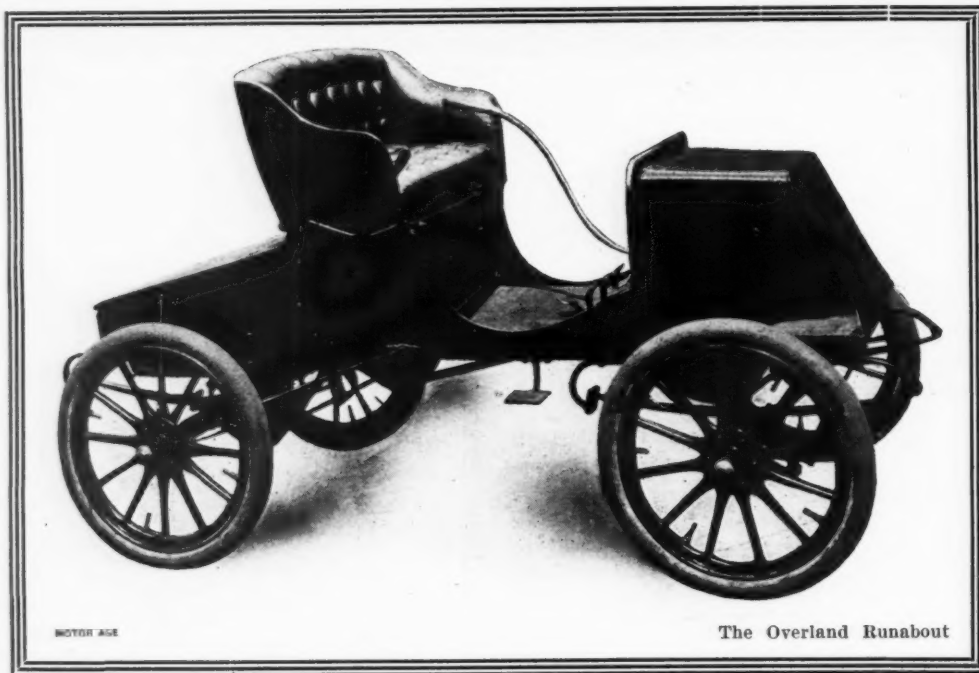
THOMAS TRUSS FRONT FORK

One of the principal "talking points" of the Auto-Bi, manufactured by the E. R. Thomas Motor Co., of Buffalo, N. Y., is the trussed spring fork, which in connection with the Hygienic cushion rear frame, tends to afford a degree of comfort not found in motor bicycles of rigid construction. The truss spring fork is the subject of United States patents and has just been patented in Belgium, while applications for patents have been made in other European countries. The accompanying illustration shows the system of construction employed in this spring fork.

SPEED REGULATION OF GASOLINE MOTORS

There are four methods or means of regulating the speed of gasoline motors. The first is retarding or advancing the point of ignition of the charge by changing the position of the cam or commutator which controls the timing of the spark. This change of position of the cam or commutator is effected in some cars by a hand or foot control, in others by a centrifugal governor, which, when the motor commences to run above its normal speed, retards the point of ignition by shifting the cam upon its shaft. On other cars a combination of the hand or foot control is used in connection with a centrifugal governor, so that if it is desired to increase the speed of the motor above the normal, it may be done by the hand or foot control, which throws the governor temporarily out of action, either by increasing the strength of the governor spring or cutting the governor out. The second method is by





The Overland Runabout

throttling the supply of mixture, either by a throttle or butterfly valve located in the induction pipe between the motor and the carbureter or by regulating the supply of gasoline and air before mixing. These forms of throttling devices are fitted with hand or foot control or either one in connection with a centrifugal governor. The third method is by cutting out the exhaust; that is, rendering the exhaust valve inoperative by means of a sliding cam or other suitable device, and retaining the burned charge within the cylinder until the motor resumes its normal speed.

The fourth and last method of speed regulation is known as the "hit and miss" type, and consists in entirely cutting off the gasoline supply by a suitable device, operated by a centrifugal governor, so that only air is drawn into the cylinder of the motor during the time the governor is in operation, thus scavenging and also cooling the cylinder.

The first mentioned method of regulating the motor speed by advancing or retarding the point of ignition is the least efficient of the four methods, on account of the great loss of power by the initial pressure in the cylinder falling off very rapidly when the ignition is retarded. Throttling the mixture comes next in point of efficiency, being somewhat more efficient than the first mentioned method.

Governing or controlling the speed of the motor by cutting off the exhaust, entails no loss of power by wasted or partially burned gases, as in the first and second methods, and is much used on high-powered cars of European make.

The last or fourth method of governing the motor by cutting off the fuel supply is the most efficient method known, as the cylinder is entirely cleared of the products of combustion during the time that the governor is operative, and the cylinder is cooled in addition to being scavenged. This system of governing, while used on nearly all stationary gas and gasoline engines, seems not to have been used so far in automobile construction.

When regulating the speed of a gasoline motor by the ignition, the ignition mechanism should be advanced very slowly, a small fraction at a time, with several seconds interval between each movement, so as to give the motor a chance to pick up or attain the required speed gradually and without shock or

jar to the working parts of the motor or car. If the ignition be half advanced and the motor running smoothly, and the ignition is fully advanced suddenly, the compressed charge in the cylinder will be fired at a point quite a distance from the end of the compression stroke, resulting in a very severe shock to the motor; for while the velocity of the fly wheel is forcing the piston in one direction the result of the advanced ignition tends to force it in the other direction and thus puts an enormous strain upon the piston, connecting rod and crank shaft.

Regulating the speed of the motor by means of the throttle does not produce the same injurious effect as advancing the ignition suddenly, but the throttle should always be opened gradually until the motor has attained its maximum speed. A simple and efficient method is to have the ignition and throttle controls so connected that the ignition will be fully advanced when the throttle is opened to its full extent.

SPAULDING'S VARIABLE TRANSMISSION

H. C. Spaulding, 15 Federal street, Boston, is desirous of introducing a variable speed transmission for which he is the owner of letters patent. The illustration shows the principal features of this gear, which operates by means of two adjustable sheaves and a belt, in which the chief novelty lies in the method of shifting the pulley sections to change the relative working diameters. The sheave on the driving shaft comprises two conical faced disks, one of which is keyed to the shaft, and the other of which is splined thereon. The latter member is slidably controlled by a manually actuated wedge which is slotted to encompass the shaft, and which engages the faces of two ball bearing thrust collars intermediate of the

splined disk and the outer final thrust block. Takeup for the slack in the belt, caused by variation in the working diameter of the driving shaft sheave, is afforded by making the sheave on the driven or counter shaft similar to the first but with the sliding member spring governed.

THE OVERLAND RUNABOUT

The Overland gasoline runabout, made by the Standard Wheel Co., of Terre Haute, Ind., was designed to fill the demand for a light powerful machine at a reasonable price. It combines many of the up-to-date features of more expensive cars, but efficiency, safety and comfort have not been sacrificed for speed and style.

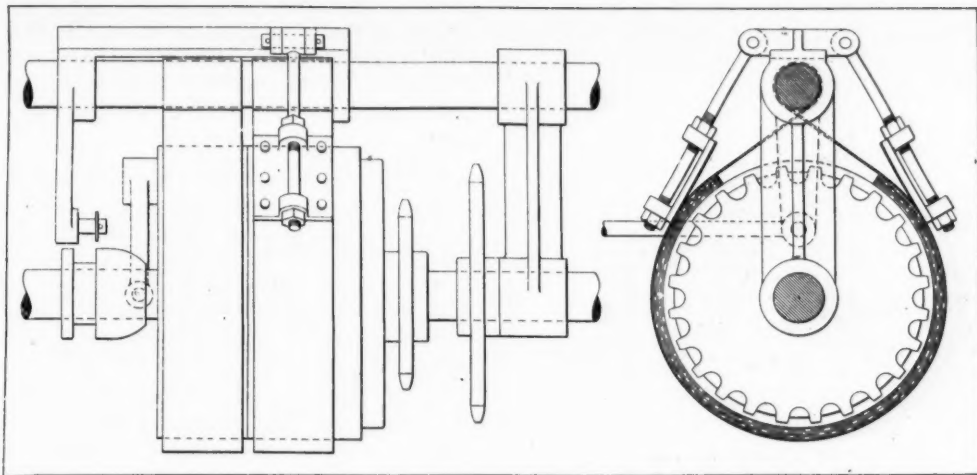
The frame is of wood reinforced with a continuous steel plate securely attached to the wood. The springs are of the semi-elliptic type and 34 inches long. The wheels are of the wood artillery pattern, with twelve spokes and are fitted with 28 by 2½-inch Goodrich clincher tires. The front axle is of 1½-inch steel tubing with ball bearings. The rear axle is of 2 5-16-inch steel tubing with 1-inch live shaft and roller bearings. The wheel base is 64 inches.

The body is of the latest runabout design. The seat has a solid back and side panels and is roomy and comfortable. Space is provided in the rear of the body for baggage. The body is finished in dark automobile red with black and gold striping. The upholstery is of dark green leather with spring back and cushion.

The motor is of 5 horsepower with a single vertical, water cooled cylinder. It is located in front of the car directly in front of the dash and behind the combination water tank and radiator. It has both throttle and ignition control by which the speed of the motor may be varied from 150 to 1,800 revolutions per minute. The fly wheel is sufficiently large to insure steady running and to practically eliminate vibration. The cylinder, combustion and valve chambers are cast integrally, thus dispensing with packing and preventing leaky joints. The inlet valve can be readily and quickly removed for inspection. The Longuemare carbureter is used. The ignition mechanism is of the jump spark type with platinum contact points. The current is supplied from dry batteries, two sets of which are carried, a



Motor and Radiator of the Overland



MOTOR AGE

Transmission Gear of the Overland

two-way switch allowing either set to be used. A combination water tank and radiator of the Clarkson type is used for the water cooling system, the thermal-syphon or natural circulation being employed.

The transmission is composed of cut steel spur gears running in oil. There are two speeds, forward and reverse. The slow and reverse speeds are controlled by brake bands operated by pedals. The fast speed is operated by means of a friction clutch and gives a direct drive from the motor through the two chains. The transmission gear is located beneath the seat of the car and is driven by a roller chain from the motor, in turn driving the rear axle through a second chain on the differential gear sprocket. The Brown-Lipe differential gear is used, consisting of steel spur gears enclosed in an oil tight case. The roller chain is of 2-inch pitch and is 5-16 of an inch wide.

The car is fitted with two brakes, one on the differential gear and the reverse forming the other. The speed of the car is from 2 to 20 miles per hour. Tiller steering is used, effected by a canter lever. The car weighs 650 pounds with the water and gasoline tanks filled ready for use.

THE KING CONCENTRATOR

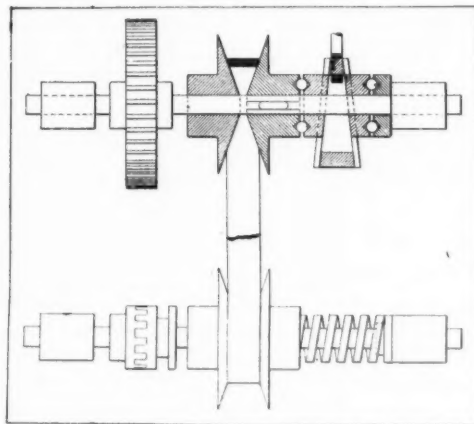
One of the most recently introduced articles for increasing the efficiency of jump spark systems of electric ignition is what is called a concentrator, and which is marketed by Charles B. King, of Detroit, Mich., one of the several appurtenance makers to bring out extra spark gaps a short time ago. This concentrator is placed in parallel with the secondary circuit in connection with a spark gap, and serves as a secondary condenser to increase the efficiency of the spark. It is said to have been thoroughly tested and the maker sends it out with a guarantee to produce a spark between the plug points, even though they be completely covered with a paste of carbon dust and oil. The illustration shows diagrammatically how the concentrator is placed in the circuit. It is made in pattern for motors of from one to four cylinders and it is claimed that it is well insulated and puncture proof. It is supplied with a directly connected spark gap when desired, or without it if to be used in circuits already supplied with the extra gap.

DELIVERY CARS FOR UNDERTAKERS

The following letter all but the signature is reproduced exactly as it was written to a Chicago dealer. It is good enough demonstration that an appreciation of the commercial

value of the automobile has reached all classes of people:

N. York, June 15, 1903—Sir—What interest me it is: delivery wagons and mobile carriage with top to carry 4 passengers each mobile. As it is 22 years I live in N. York I have a quiet-



MOTOR AGE

Spaulding's Transmission

tance of a couple hundred business mans that have horse and wagon and whole be glad to sell both or I mean horse and wagon to save 25 Doll. months to feed the horse and to replace with mobiles. Bakers, Grocers, Butchers etc. They told me if there is a good chance are ready to buy the mobile to replace horse and wagon. This is about Delivery Wagons.

About carriage to hold 4 passengers you know which kind of vehicles use the Undertakers; here in N. York there is about one dozen of them all

my countrymen and every one have 25 or more carriage to provide for funerals; only Mister Bacicalupo own about 40 carriage and 80 horses (two horses each carriage) if it is a good change they sale all the horses as it is a heavy expense and to buy mobiles.

Please tell me if in your prices you send me the catalogue you want all cash or if you sale 1/2 cash and 1/2 10 Doll.

months, and if you have office here in N. York; if you have not I will be glad to have a small job from you to represent the Firm as about references I give you how many you want and I sign a contract in a Lawyer office about the rules of your Firm.

The Italians here are 250,000 (estimated) and 15 per cent are business mans; if the prizes are low only to the undertakers I think will be a trade of a couple hundred mobiles as are one dozen undertakers and each one own 15 or 30 carriage.

I am north Italian born in Turin 400,000 souls (near Genoa) middle age single, 22 years in America always in N. York. Respectf your servant:

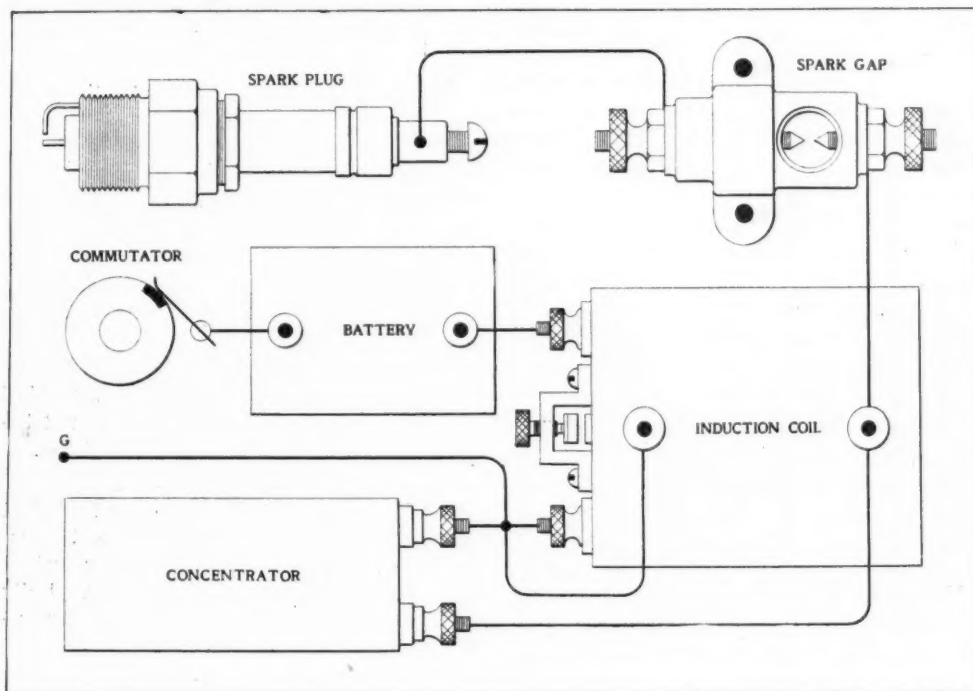
ROADSIDE STIMULANTS

Leaky joints in gasoline or water pipes may be made tight by means of coarse linen or canvas, covered with a paste of litharge and glycerine. This should be again covered with a bandage of adhesive or sticky tape, such as is used for electrical purposes. When out on the road, if the brakes should be found not to hold properly, they should be adjusted immediately before any serious accident may happen. The trouble may be due to grease or oil having covered or saturated the brake bands, in which case they should be thoroughly cleaned with waste or old rags. If the trouble be due to improper adjustment, a few minutes' use of a wrench will generally set matters right.

COMMERCIAL LAW POINTS

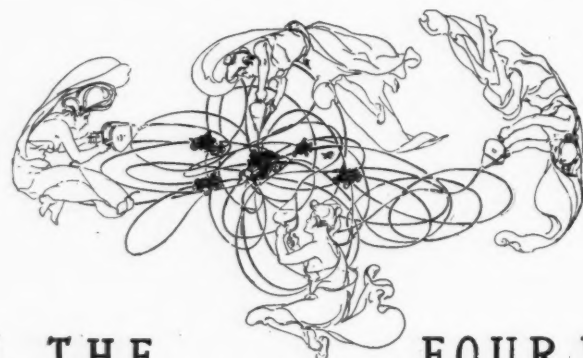
Where after a breach of a seller's contract to deliver goods, the buyer, who had contracted for the resale of the goods at an advanced price, was unable to obtain other like goods in the open market, he was entitled to recover profits lost through the seller's breach of contract. (9 Det. L. N. 511).

A special or limited partnership, unlike a corporation, may become bound in respect of matters foreign to its original object by the customary practice of all the partners, or by that of one or more managing partners with the apparent knowledge and acquiescence of all the others concerned. (19 App. D. C. 550).



MOTOR AGE

Application of King's Concentrator



FROM THE

FOUR WINDS

The council of Tampa, Fla., has fixed the speed limit of automobiles at 8 miles an hour.

"Whoe'er has motored through life's round; where'er his stages may have been—may sigh to think he ne'er has found good petrol at an inn."

Barney Oldfield and Tom Cooper will race at Elkhart, Ind., July 18 at the Elks' fair. Other automobile races will be arranged for the same day.

A Canton, O., man has an automobile which he rents for 50 cents an hour, including a chauffeur. He evidently figures on large sales and small profits.

The first long endurance contest in Holland will be held July 21 to 24 under the auspices of the Dutch Automobile Club. The entire course is 387 miles long.

The city solons of Steubenville, O., think 6 miles an hour is fast enough for automobiles in that town, and they have passed an ordinance making that rate the limit.

In the races at Danbury, Mass., June 29 the Locomobile was winner of the exhibition mile, and also of the contest between Victor M. Buck's Darracq and Mr. Carson's Locomobile.

The Canadian General Electric Co., Ltd., of Toronto, Canada, now represents the Electric Storage Battery Co. in the sale of the company's chloride and exide accumulators throughout Canada.

Charles E. Hadley, one of the old timers in the bicycle industry, has recently assumed the position of mechanical expert for the Federal Mfg. Co., of Cleveland, O., being officially known as chief engineer.

The Auto Tours & Livery Co. is the style of a new firm in Buffalo, N. Y., which has inaugurated an hourly schedule of suburban and city tours that will prove attractive to visitors, as well as residents of the city.

When going down a grade, the descent should always be made on the low gear. If the grade be steep the ignition should be cut out and the motor can then be used as a brake, the brakes themselves being reserved for an emergency.

The executive force of the E. R. Thomas Motor Co., Buffalo, N. Y., is eagerly looking forward to receiving a large leather medal from President Roosevelt for its strenuous efforts in discouraging race suicide. During the month of June there were eight weddings among its executive force and heads of de-

partments, three more were booked for the near future, and five children were born to some of those already married.

Frederick J. Graf, of New York, is trying to introduce an automatic fender for motor cars and other vehicles. It is claimed that it is impossible to inflict injury upon the person who falls beneath the car when this fender is used.

Wilson & Co., 142 Bank street, Ottawa, Ont., have added a large storage station and repair shop to their establishment and they can now care for any tourists who visit the capital city. They handle the Pierce, Cleveland and Century cars.

An automobile club has been formed at Salt Lake City, Utah, with eighteen members. At the first meeting last week a committee was appointed to draw up a constitution and by-laws. Officers will be elected at the next meeting.

The Decker Automobile Co., of Owego, N. Y., will remove to Binghamton, where it will probably be in operation in 60 days. The company is headed by Ward Decker, of Owego, and will be backed by Binghamton business men to the extent of \$50,000.

The Exide Battery depot, which was formerly located at 148 West Eighteenth street, New York, has been transferred to Forty-ninth street and Eighth avenue, and will hereafter be operated by the New York Transportation Co. at the latter address.

The octagonal booklet issued by the Automatic Lubricator Co., of Chicago, advertising its Simplex and Multiplex systems of lubrication, follows the plan of the company in the manufacture of the fittings, all of which are octagonal. The little book is unique in make-up and is bound to attract attention.

Automobiling, a bright little local monthly, published by Charles Fuller Gates at Los Angeles, Cal., handles the automobile news of the Pacific coast in a first-class manner and is well worth the annual "four bits" asked for it. Los Angeles is said to be the most important automobile center west of Chicago.

W. K. Vanderbilt, Jr., was hurt in an automobile accident while touring near Paris last week. While lying in the road under his machine trying to repair it, there was a sudden flash and explosion. Vanderbilt was badly scorched and was confined to his room for several days.

The new catalogue of the Studebaker Bros. Mfg. Co., of South Bend, Ind., illustrates five

styles of electric automobiles, ranging in price from \$950 to \$1,150. The Studebaker vehicles were first placed on the market over a year ago. The catalogue belongs to the typographical kind known by the title "high art."

The fourth annual issue of the Iron Age directory has just been mailed to the subscribers of that journal. The directory contains a complete list of the manufacturers in iron, steel, machinery and the hardware trades and the purchasing agents of nearly every railroad of importance in the United States.

Dan M. Lomax, a young mechanic of White Hall, Mont., has built a motor cycle which is equipped with a Thomas motor. With this machine he has made a mile straight away over ordinary Montana roads in 1:09. Mr. Lomax is willing to enter a contest with any grade of motor cycle, either for speed or hill climbing.

The American Ball Bearing Co., of Cleveland, Ohio, sends out a neat book containing illustrations of a score of American automobiles using the ball bearings of the company's manufacture. The manufacturers mentioned all make first-class machines, and the argument presented by the ball bearing manufacturers is convincing one.

The Granite State Automobile Club is the name of the new organization of motorists at Manchester, N. H. The first meeting was held last week and officers elected as follows: President, Walter M. Parker; secretary and treasurer, Albert L. Clough; board of directors, Harry E. Loveren, Fred W. Fisher, Charles E. Greene, A. E. Dumas and William J. Hoyt.

The first automobile gymkhana in France was given last Wednesday at the Paris polo ground. The prize for in and out driving was won by Charon, and Miss Le Jeune took the ring and lance and glass of water carrying events. Princess Murat's brougham took first honors for the best appointed turnout. The prize for elegance for carriages went to M. Fouquet de Lusigneul.

The Automobile Club of California will make a run from San Francisco to Del Monte during August. The club will go from San Francisco to San Jose on Thursday, August 6, and stay there over night and go on the next day, reaching Del Monte Friday evening. The following 3 or 4 days will be spent in touring to the pretty spots around Del Monte.

By a vote of the citizens of the town, the use of automobiles has been prohibited on most of the important highways within the limits of Bar Harbor, Me. This is considered a serious matter by the summer residents and it restricts the running of machines to the side streets of the village and the thoroughfares included in the prohibition embrace the main roads leading into the surrounding country.

Thomas B. Jeffery & Co., of Kenosha, Wis., issue a booklet with explicit directions for operating and adjusting the Rambler cars. A diagram of the chassis aids materially in understanding the directions. The booklet was written by G. W. Bennett, sales manager of the company, and goes thoroughly into detail giving exact instructions for making minor adjustments not ordinarily considered in work of the kind.

American Motor League Official Bulletin

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P. L. Hussey...Toledo
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John A. Bechtel...Milwaukee
C. E. Munroe...Providence

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Harold M. Brown...Boston
Harry Unwin...New York
George E. Hannan...Denver
W. H. Kirkpatrick...Hartford

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Edwin F. Brown...Chicago
Henry F. Spaulding...Buffalo
S. W. Merrihew...New York
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Alexander Winton...Cleveland
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C. W. Carpenter...San Francisco

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John Wilkinson...Syracuse
W. K. Cowan...Los Angeles, Cal.
John M. Clark...Columbus, O.
S. E. Gifford...Chicago

SIGN BOARDS

Frederick G. Bourne...New York
Edw. W. Barnes...Perth Amboy, N. J.
E. W. Roberts...Clyde, Ohio
W. J. Morgan...Newark, N. J.
B. G. Campbell...Milwaukee
G. W. Poley...Norristown, Pa.

PRESS

Jos. Estoclet...Philadelphia
John C. Wetmore...New York
John J. Donovan...Boston
Louis R. Smith...New York
Arthur N. Jervis...New York
John H. Gerrie...New York
W. Horace Lerch...Buffalo

AUTOMOBILE HAND BOOK

The chairman of our committee on technics—Charles E. Duryea—is a man not only highly skilled in the arts of the mechanic, but is an earnest and loyal member of the A. M. L. and an effective worker for its success. He has prepared for the use of our members a practical and immensely useful little volume and we expect shortly to announce its publication. It is called the Automobile Hand-book and is a convenient book for helps and hints for owners and users of automobiles and other motor vehicles. It will be bound in pocket size.

Every owner and every intending buyer of a motor vehicle should have a copy. It explains in plain words the power used in driving motor vehicles, the nature of gasoline and how it should be used and stored; points out the causes and remedies of common motor troubles; gives directions for starting and operating the carriage under various conditions; tells how, when and where lubricators should be applied and what lubricators are best; treats of the different causes of imperfect combustion and troubles with sparking apparatus and ignition circuit; reviews in a brief, practical way the various reasons and remedies to be considered at times when the carriage "won't go."

It gives due space to the steam carriage, with hints and precautions for the management of the boiler and gasoline tank and starting and running the engine; enumerates the difficulties and suggests simple remedies for pump troubles and gives brief, practical directions for easy and practical operation of steam carriages.

It contains ample directions for the general operation of electric vehicles, the care and management of storage batteries and the economical application of electric power.

It gives proper space to the subject of wheels and tires, and to those general features of construction upon which the vehicle must depend for strength and durability and for the comfort of the operator.

In brief, while not aspiring to the dignity and bulk of an exhaustive "treatise," this little book contains essential and important information, in handy form, and will be welcomed by every reader who is not already an

expert in the knowledge and experience of automobilism.

This book is being prepared for the members of the American Motor League, each of whom will receive one free copy.

A hand book of the motor cycle will be prepared during the present year and will be announced as soon as in press; but motor cyclists will find a fund of valuable and useful information relating to all motor vehicles contained in the hand book of the automobile.

BOOK OF TOURS AND ROUTES

We are pleased to announce the early publication of Automobile Tours and Routes. This is the first book of a series that will in a little while cover the entire country. It is devoted to routes and tours in the eastern and middle states; is about 4 by 8 inches in size; contains 141 single map pages and five double map pages, and is the most convenient, comprehensive and compact tour book ever published. It contains detail maps showing routes from New York to Boston, to Philadelphia, to Poughkeepsie, to Albany, to Saratoga and Lake George, to the Canada line, to the Adirondacks, to all prominent intermediate points; routes on Long Island and in New Jersey; routes from Albany and Troy to Pittsfield, Mass., to Bennington, Vt., to Great Barrington, to Utica, to Hudson, to Richfield Springs and to other points; north, east, south and west; routes in eastern Massachusetts, Connecticut and Vermont; routes in twenty-two counties in New York state, over the best roads and among the most interesting and picturesque localities. Most of the routes are in map form of special design, with ample notes and directions.

Index maps and detail maps of routes show distances in miles and fractions of a mile between contiguous points, character of the roads and other information of value to all users of motor vehicles. These maps have been specially prepared at a cost of several thousand dollars for the use of touring vehicles, and are the most accurate and complete road maps ever made within the territory covered by this book. A reliable and convenient index will enable the tourist to quickly find the numbered route on which any city or village is located. The routes mapped and described in this book

cover an aggregate road distance of over 3,500 miles.

This book is being prepared for members of the A. M. L., each of whom will receive one free copy.

OHIO APPOINTMENT

Howard E. Raymond, of Akron, O., has been appointed chief consul of the Ohio division of the A. M. L., and will give his attention to the duties of that office on his return from Europe.

OFFICIAL HOTELS

More than 200 applications for appointment of official hotels were received last week and will be promptly acted upon. Only hotels of good quality, supplying proper accommodations, are considered in making these appointments. Each hotel is under contract to allow members of the A. M. L. a discount from regular rates and all hotels appointed are under contract to keep this obligation.

SUPPLY STATIONS AND REPAIR SHOPS

Communications have been sent to repair shops and supply stations in different parts of the country and official appointments will be announced within the next few weeks. Each supply station and repair shop will be under contract with the A. M. L. and any willful violation of this contract, as in the case of hotels, will terminate the appointment. We should be glad to receive applications from proprietors of supply stations and shops whose addresses are not in our possession and who believe themselves qualified to receive the official appointment.

OFFICIAL SIGN BOARDS

A series of sign boards, designed to warn touring automobilists and motor cyclists of the proximity of dangerous hills, approaches to villages, etc., have been prepared and, as soon as approved by the committee, will be announced through the columns of the daily newspapers.

ACKNOWLEDGMENT

Our acknowledgments are due to the Touring Club Italiano, to the Automobile Club de France and to the Automobile Club of Great Britain and Ireland for copies of their annual club lists and publications.

MEMBERSHIP IN THE A. M. L.

Application blanks will be sent on postal card request by the secretary. All applications must be accompanied by 1 year's dues—\$2—to which there should be added \$1 for 1 year's subscription to MOTOR AGE, the official organ.—R. L. STILLSON, Secretary, 150 Nassau Street, New York.

FOURNIER NOT DISGRUNTLED

In a recent interview with Henri Fournier, prior to the Gordon Bennett race, he said:

"I would be unreasonable to complain about the change made by the Mors people in taking Gabriel to ride their car instead of me. I would, however, have been very happy to meet these selected experts, and now can only wish that the cup be brought over here on the continent. In the contract made with the Mors company it was stipulated that in case it is broken there would be an indemnity of \$6,000, and I want to get it. As to my match with Winton, I do not understand the talk about it at all. The only thing I see in it is that Winton is afraid to go against certain defeat. I will, however, remain at his entire disposal. If I compete the match with him it will be on a Hotchkiss car which I intend to ride hereafter."

The Gordon Won CONTIN TIER



“Swifter than the W

Winner of the Leading Events, E
Without the best Tires you s

Send for Price List.

THE CONTINENTAL CAOUTCHO

EMIL GROSSMAN, Manager 2

Bennett Cup
on

ENTAL
RES



Wings of Mercury”

Everywhere. Quality Counts.
simply fall by the wayside.

OUOC AND GUTTA PERCHA CO.
298 BROADWAY, NEW YORK

Locomobile

Owing to the demand for our Gasoline Touring Cars, it has been necessary to operate our large factory at full capacity day and night all this year. We are now prepared to make deliveries on the 4-cylinder 16 h. p. Model in 30 days from date of order--unusually prompt delivery for this type of car.



The 4-cylinder 16 horse-power Locomobile shown above is remarkable for its smooth and noiseless operation at all speeds; for its hill climbing ability; ease of control; and for the excellent design throughout. It is faster than many cars of a greater rated horse power. The mechanical details are in accordance with the latest and best practice; the workmanship is thoroughly good; and a striking feature of the car is the ease with which all parts may be gotten at.

We have delivered many of these cars, and if desired, can furnish testimonials of a high character from customers to whom we have furnished machines.

Write to our factory, or to any branch office for further information, photographs, or to arrange for a thorough demonstration.

The *Locomobile* Company of America
Head Offices and Factory, Bridgeport, Conn.

BRANCHES: { 76th St. and Broadway, New York; 13 Berkeley St., Boston; 249 N. Broad St., Philadelphia; 1354 Michigan Ave., Chicago; 39 Sussex Place, South Kensington, London.

AUTOMOBILES FOR BUSINESS PURPOSES

Must be something more than playthings, experiments or advertisements.

The wonderful showing made by the

WATERLESS KNOX DELIVERY CARS

in the Commercial Vehicle Contest is being repeated every day, and proves that they fill the bill.



"ALL SEASONS ARE ALIKE TO THE WATERLESS KNOX"

Send for catalogue and ask for delivery dates of

Knox Runabouts and Delivery Cars

Knox Automobile Co., Main Office and Works **Springfield, Mass.**

PRINCIPAL AGENCIES:

New York, H. M. Davis, Mgr., 146 W. 39th St.
 Boston, Reed-Underhill Co., 41 Stanhope St.
 San Francisco, National Automobile & Mfrs. Co., 134-148 Golden Gate Ave.
 Philadelphia, Banker Bros. Co., 629 N. Broad St.
 Pittsburgh, Banker Bros. Co., Baum & Beatty Sts.
 Chicago, A. C. Banker, 456 Wabash Ave.
 Minneapolis, Northwestern Motor Vehicle Co., 112 So. 6th St.
 Fall River, Mass., J. Edward Newton.
 Providence, R. I., Nelson S. Davis, 127 Washington St.
 Grand Rapids, Mich., Adams & Hart.

Hartford, Conn., Brown, Thomson & Co.
 Brockton, Mass., W. H. Marble, 152 High St.
 Paterson, N. J., F. W. Stockbridge, 450 Broadway.
 Marlboro, Mass., A. M. Page.
 St. Louis, Mississippi Valley Auto Co., 3935 Olive St.
 Worcester, Mass., Worcester Automobile Co., 84 Exchange St.
 Denver, Geo. E. Hannan, 1455 California St.
 Milwaukee, Wis., Geo. A. Crane, 187 Wisconsin St.
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136 East Lake Street**MINNEAPOLIS:**
117 So. Sixth Street**DENVER:**
1564 Broadway**SAN FRANCISCO:**
461 Mission Street**ATLANTA, GA.**
66 N. Broad Street**STANLEY STEAM CAR:—**First award in Mass. Auto. Club Hill Climbing Contest, Boston
April 20th, with "Dunlops."**STEVENS-DURYEA CAR:—**First award in same contest (in the Gasoline Class) fitted with
"Dunlops."**KNOX DELIVERY AUTO:—**First award in New York Commercial contest, on May 20th and 21st,
with "Dunlops." (Weight of vehicle 3,800 lbs.)**STANLEY STEAM CAR:—****World's Mile Record**, at Readville, Mass., on May 30th, with
"Dunlops."**C. H. CURTIS "HERCULES" MOTOR CYCLE:—**First award in New York Motor Cycle Club's Hill Climbing Contest,
May 30th, with "Dunlops."**They Can be Relied Upon**
To Stand the Test on All Kinds of Motor Vehicles**DUNLOP****THE HARTFORD RUBBER WORKS CO.**
HARTFORD, CONN.

THE CUDELL



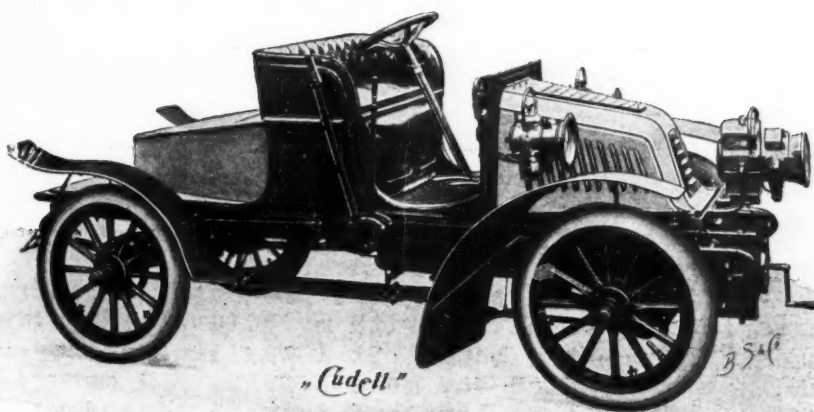
16 Horse Power
CUDELL

Convertible
into a

Coupe,
Phaeton
or Racer



Delivery
in 10 Days



Send for
Full Description

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Office: 10 West 33d Street, New York. Telephone, 2754 Madison

Uptown Garage, C. L. Bell & Co., 250 West 80th Street. Tel.: 2562 River.
Baltimore Agency, A. G. Spalding Bros., 25 West Baltimore Street.

Philadelphia Agency, Motor Vehicle Power Co., Sixteenth & Wood Streets
Summit, N. J., C. C. Henry. Yonkers, N. Y., William Shrive

New England Representatives: Angier & Whitney, Boston, Mass.

CENTURY

AGENTS:

New York City, N. Y.—
Banker Bros., 141-143
W. Thirty-eighth street.

Providence, R. I.—H. G.
Martin & Co., 196-200
Exchange street.

New Britain, Conn.—Con-
necticut Automobile Co.,
78 West Main street.

Asbury Park, N. J.—A. A.
Taylor.

Philadelphia, Pa.—Banker
Bros. Co., 629-633 North
Broad street.

Oneida, N. Y.—John Max-
well.

Attica, N. Y.—Hugh Mil-
ler.

Buffalo, N. Y.—J. A. Cra-
mer, 602 Main street.

St. Joseph, Mich.—Trus-
cott Boat Mfg. Co.



PRICE \$750

TOURIST

AGENTS:

Dayton, Ohio—G. W.
Shroyer & Co., 106 North
Main street.

Minneapolis, Minn.—
Northwestern Motor Ve-
hicle Co., 112 South
Sixth street.

St. Paul, Minn.—Wm. Rin-
ker, 324 Wabash street.

FOREIGN.

Canada—Wilson & Co., 144
Bank street, Ottawa,
Ont.

Mexico City, Mexico—Leon
Wolff, Zuleta 10, Aparta-
do 394.

London, England—R. Rey-
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THE CENTURY

is a superb gasoline car for constant use. It is not a delicate machine, overloaded with mechanical "ginger bread" nor is it a raw, crudely built car. It has the highest degree of mechanical refinement in design and construction, and is simple, strong and powerful. Ask us to tell you why.

CENTURY MOTOR VEHICLE CO.

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WHAT THEY SAY ABOUT "THE CLEVELAND ROADSTER."

L.J.Hodge & Sons
BANKERS.

ILLINOIS FARM LOANS A SPECIALTY

L.J.HODGE, PRESIDENT
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Wenona, Illinois.

June 18, 1903.

The Cleveland Automobile Co.,

Cleveland, O.

Dear Sirs:-

It gives me great pleasure to report to you the experience I am having with my "Cleveland Roadster", my first machine. When I bought it I was ignorant of all its workings etc., had never operated any make before. I am especially pleased with the ease that the Cleveland is managed and under control, also the easy access to all parts, the appearance, and the easy riding qualities it has. I have not had any trouble to speak of, only what I figured out myself in a short time.

You are at liberty to use this letter where and when you please. Thanking you for past favors, and assuring you of my co-operation at all times, I am,

Very truly yours,

George O. Hodge.

CLEVELAND AUTOMOBILE COMPANY, 16-20 LAKE STREET, CLEVELAND, O., U. S. A.

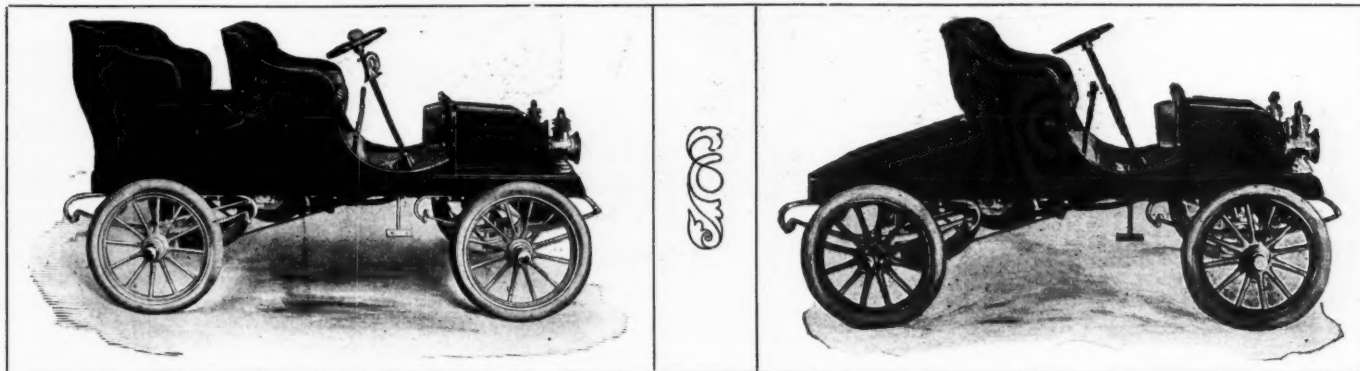
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AMERICAN DARRACQ AUTOMOBILE CO., New York Agents.

Service is the Chief Consideration in an Automobile.

THE GENERAL WAS BUILT FOR SERVICE

It has been aptly described as the return-trip automobile. Its working parts are few and durable; the control is secured by frictional brake bands which are operated by single lever for forward changes and by treadle for reverse these parts are made heavy and careless handling can in no way injure them; fuel is fed automatically, regardless of all changes of speed; and lubrication is automatic.

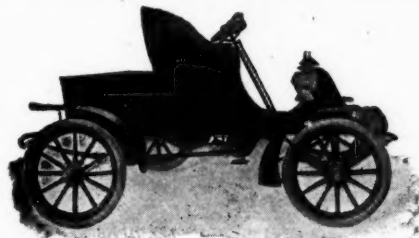


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The ELMORE AUTOMOBILE



is the most simple, practical and reliable car ever put on the market. It is propelled by the famous Elmore motor, whose two cylinders have fewer parts than a single cylinder of any other type.

Either engine will propel carriage should the other be cut out. (A very important fact.)

Has dynamo and storage battery. Motor will start and carriage will run on either. (Another important fact.)

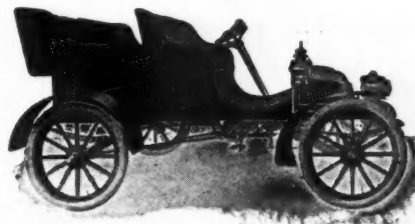
You can charge the battery from the dynamo while running the carriage, which is another important fact.

Has had a practical test of over three years' manufacture.

Two first-class certificates in New York-Boston Endurance Run. Have been used in 1000-mile tours without trouble. And still more important facts.

Doctors' and Business Men's favorite car, Model 7, \$800

Tonneau Touring Car, Model 8, \$1400



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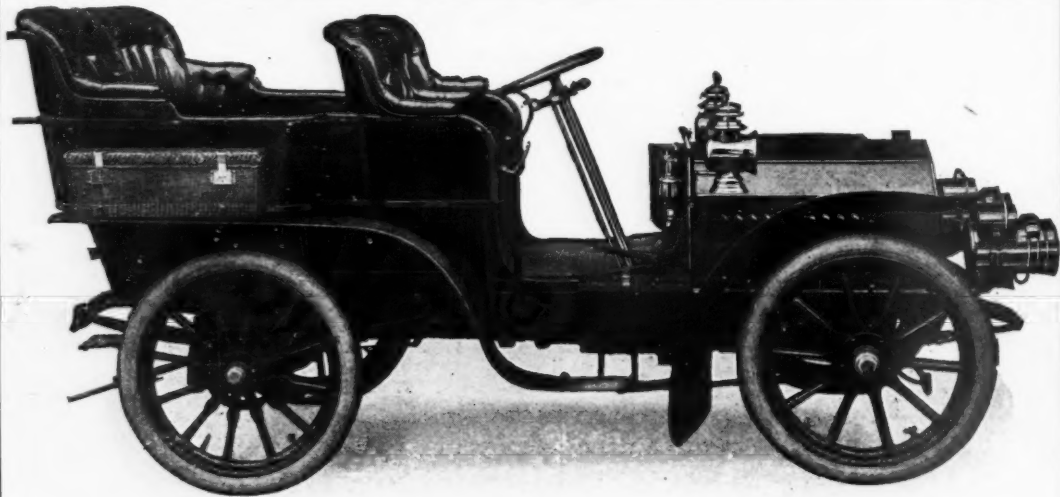
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Hold More Records than any Other Make in the World

SEE
OUR NEW
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LATEST
IMPORTATION



24 H. P. Four Cylinder Touring Car

Wonderfully
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(no wood)

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is a fair test, if it's made on a stock machine. A 15 per cent grade for 970 yards was chosen for the course of the Minneapolis power test on May 16th, and the

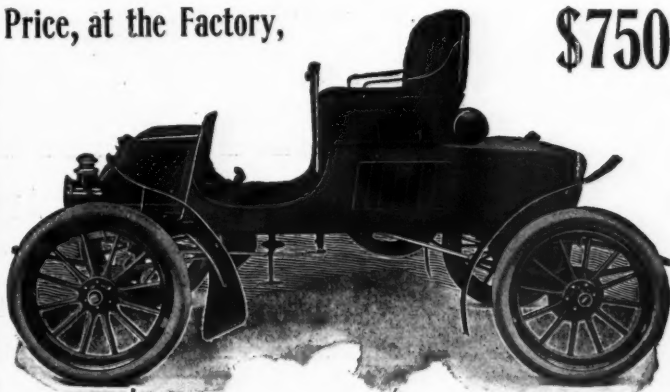
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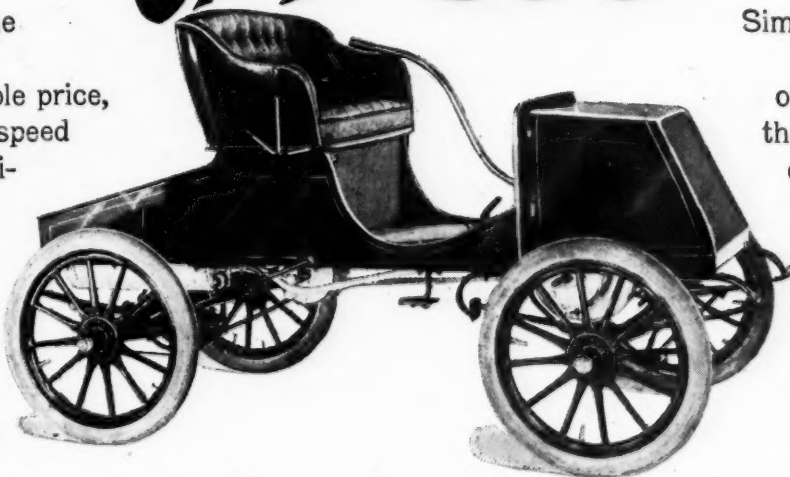
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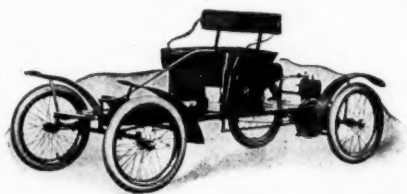
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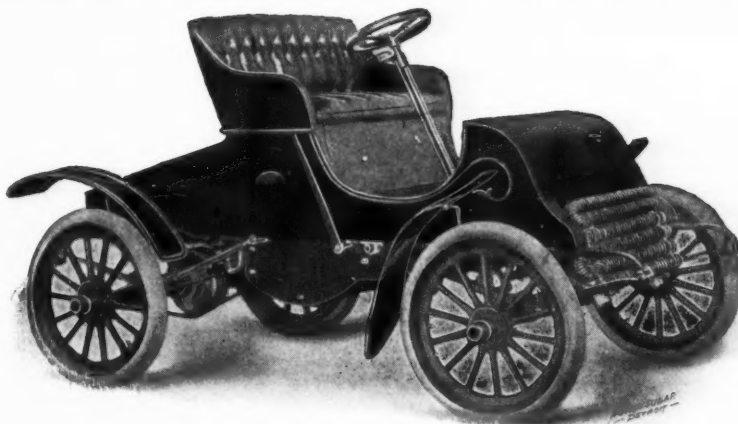
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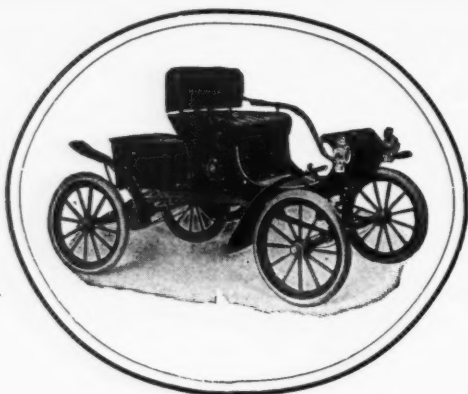


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all the time; its simple mechanism leaves "*nothing to watch but the road,*" and its strong construction proves it is built to run *and does it.*

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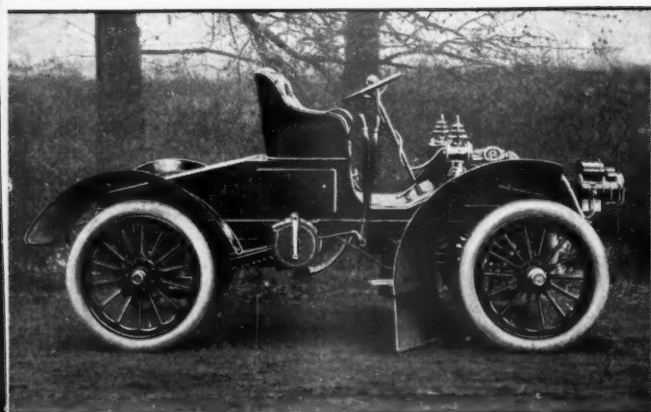
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"I have run the machine to Cleveland and Toledo and back several times, and last summer I made the trip through Pittsburg, which, in my judgment, is about the hardest ordeal you can put an automobile through. Where the roads are not filled with rocks, they are about six inches deep with sand, and the hills are wonders. However, I am glad to report that the PACKARD came through without a skip.

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NEXT TO FLYING

is the motion of the incomparable WHITE—smooth, noiseless, and free from all motor vibrations—a swift, gliding movement that affords the maximum of automobiling pleasure, minus its every defect.

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Peerless Touring Cars have entered hill climbing contests in all parts of the country, and have never been defeated



16 horse power touring cars, equal to cars of 50 per cent greater horse power. Orders taken for July and August delivery.

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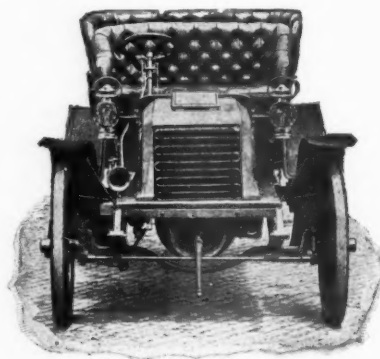
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Agents in the principal cities.

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PREMIER

appeals to posted buyers who are looking for good value and a high class touring car



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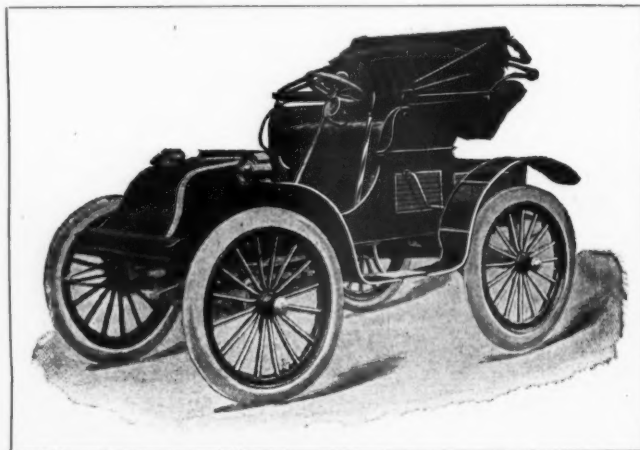
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Which is one of the New Features of this well liked Car.



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Weights 6 Lbs.



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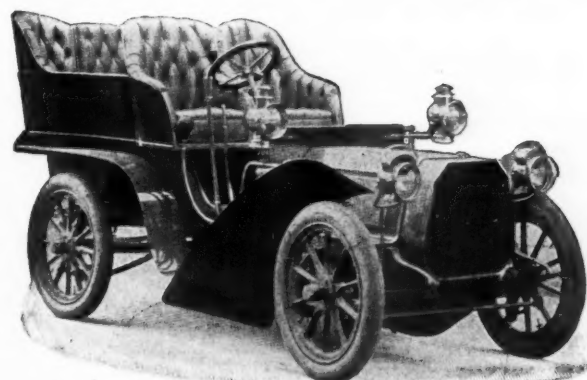
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Buy our 6 pounds of convenience, strength and utility and be happy

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Price, \$5,000.

Maximum speed 50 miles an hour. Built of the finest material by the best American machinists. No expense spared to produce the best car on the market.

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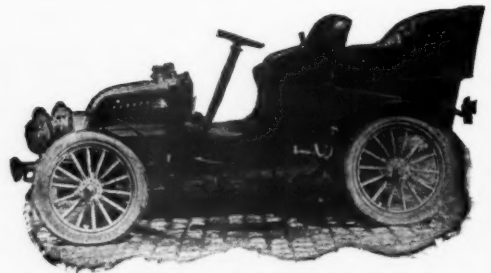
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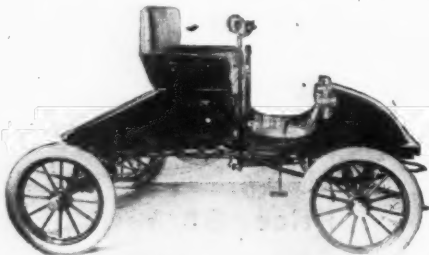
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\$750.00 \$750.00
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5 H. P. Simple construction, easily operated.
Large compartment under hood for luggage.
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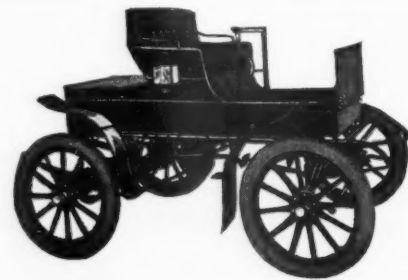
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Can be run any day in the year
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Descriptive Catalogue on Application

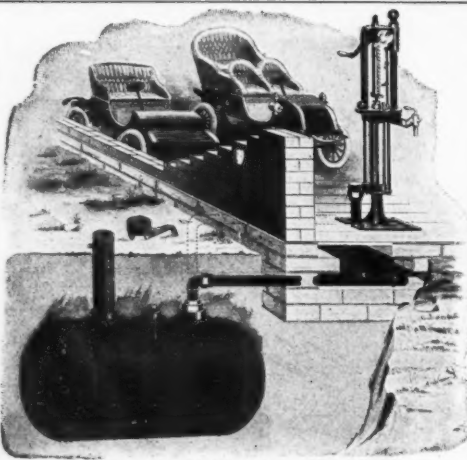
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INSURANCE UNDERWRITERS ENDORSE IT

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Bowser LONG DISTANCE Gasoline Storage Outfit

Which enables you to store the gasoline any distance desired from the buildings and still handle it at the most convenient point on the interior of your stable. It is convenient, economical, safe, satisfactory. Let us give you detailed information. Ask for Catalog "S."

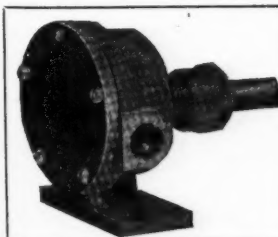
S. F. BOWSER & CO., - Fort Wayne, Indiana

"THE HARDY" (Flint Roadster) \$850 F.O.B. FLINT

8 full Horse Power and only one lever to get it. Every part absolutely the best. No experiment but a Full Grown Automobile and the result of a lifetime in carriage building and of 4 years in automobile building. The "HARDY" will absolutely satisfy you when you come to heavy roads and steep grades. For inside of all Her Elegance is plenty of power always at command. An aggressive dealer can have no better asset for building permanent business than the agency for

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Write to-day for proposition.

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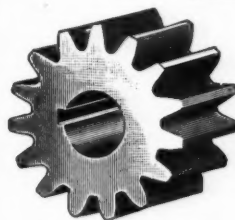
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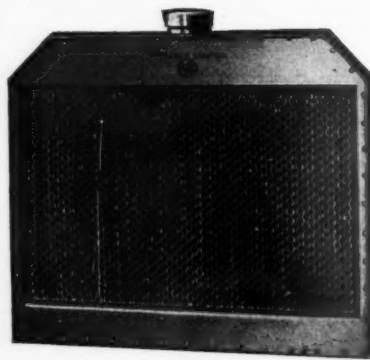
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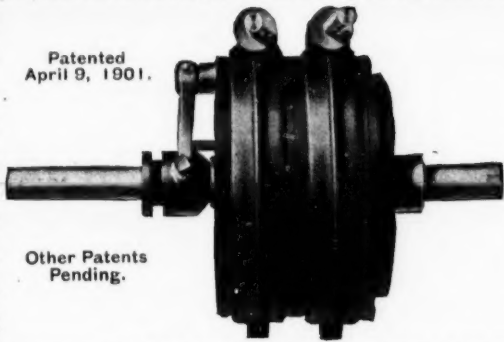
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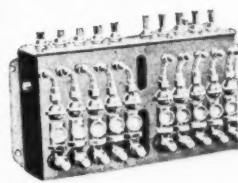
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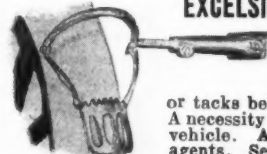
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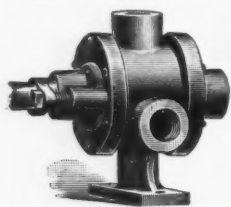
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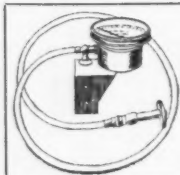
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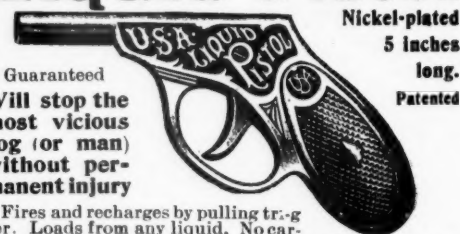
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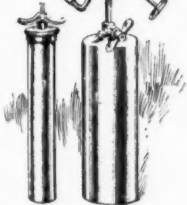
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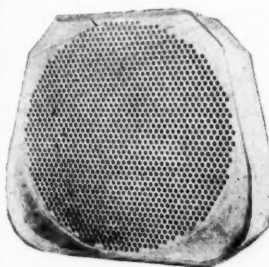
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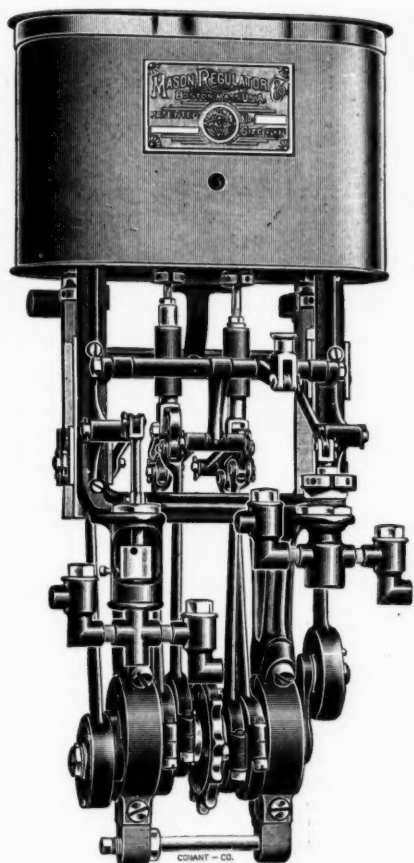
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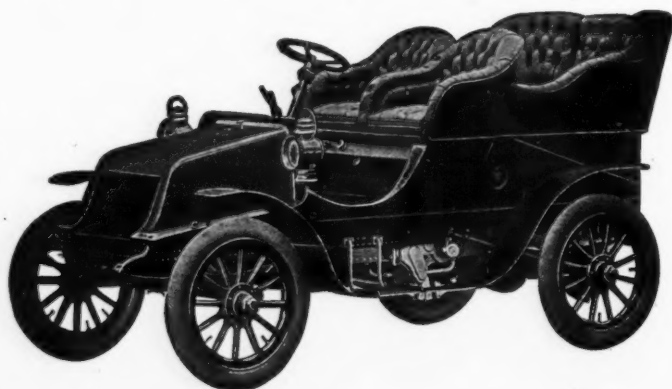
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